



Safety Data Sheet

FILCO 348

Safety Data Sheet dated 7/15/2015 version 3

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Mixture identification:

Trade name: FILCO 348

Trade code: F348

Registration Number N/A

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use: resin

Uses advised against: N.A.

1.3. Details of the supplier of the safety data sheet

Company: C.O.I.M. s.p.a. – CHIMICA ORGANICA INDUSTRIALE MILANESE

Via Manzoni 28/32, 20019 Settimo Milanese (MI) – Italy

Phone: +39 0373 248.1

Fax: +39 0373 789 222

e-mail: helpsds@it.coimgroup.com

1.4. Emergency telephone number

COIM SpA, Italy: Telephone nbr. (+39) 0373 2481; Fax nbr. (+39)0373 789222 (24 hours/day)

CAV: IRCCS Fondazione Maugeri (PV), ITALY, telephone nbr.(+ 39) 0382 24444 - telephone advice in english and italian 24 hours per day, 7 days per week; in french and spanish during office hours, 5 days per week

Poison Emergency Phone Number Munich (GERMANY): +49 (0) 89 19240 - advice in english and german 24 hours per day, 7 days per week

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1	May cause an allergic skin reaction.
Aquatic Chronic 2	Toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Regulation (EC) n. 1272/2008 (CLP)

Pictograms and Signal Words



Warning

Code	Description
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Code	Description
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P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264.1	Wash face, hands and any exposed skin part thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321.A	Specific treatment (see supplementary instructions on this label)
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P501.A	Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

EUH205 Contains epoxy constituents. May produce an allergic reaction.

Contains:

Reaction product: bisphenol-A-(epichlorhydrin)

Ingredient(s) with unknown acute toxicity:

None

2.3. Other hazards

No PBT Ingredients are present

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: FILCO 348

Hazardous components within the meaning of the CLP regulation and related classification:

Quantity	Name	Ident. Numb.	Classification	Registration Number	Properties:
35-50 %	Reaction product: bisphenol-A-(epichlorhydrin)	CAS:25068-38-6 EC:500-033-5 Index:603-074-00-8	Eye Irrit. 2, H319; Skin Irrit. 2, H315; Skin Sens. 1, 1A, 1B, H317; Aquatic Chronic 2, H411	01-2119456619-26-XXXX	
1-5 %	4-hydroxy-4-methylpentan-2-one	CAS:123-42-2 EC:204-626-7 Index:603-016-00-1	Eye Irrit. 2, H319; Flam. Liq. 3, H226; STOT SE 3, H335	01-2119473975-21-XXXX	

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

- Immediately take off all contaminated clothing.
- Remove contaminated clothing immediately and dispose off safely.
- After contact with skin, wash immediately with soap and plenty of water.

In case of eye contact:

- After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
- Protect uninjured eye.

In case of Ingestion:

- Do not induce vomiting, get medical attention showing the MSDS and label hazardous.

In case of Inhalation:

- Remove casualty to fresh air and keep warm and at rest.

4.2. Most important symptoms and effects, both acute and delayed

Eye irritation

Eye damages

Skin Irritation

Erythema

4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO₂).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

5.3. Advice for firefighters

Fire-fighters should wear positive pressure self-contained breathing apparatus and personal protective equipments, such as jacket (standard: EN469), helmet (standard: EN443), gloves (standard: EN407), boots (standard: EN345-S3 HI WRU HRO).

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorb with inert, absorbent material.

6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorb with inert, absorbent material.

In case of heavy spills: wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink or smoke while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials:

See Section 10.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

List of components with OEL value

Component	OEL Type	Country	Ceiling	Long Term mg/m ³	Long Term ppm	Short Term mg/m ³	Short Term ppm	Behaviour	Note
4-hydroxy-4-methylpentan-2-one	ACGIH				50				

Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC LIMIT	Exposure Route	Exposure Frequency	Remark
Reaction product: bisphenol-A-(epichlorhydrin)	25068-38-6	0.006	mg/l	Fresh Water	

Date 7/16/2015 Production Name FILCO 348

4-hydroxy-4-methylpentan-2-one	123-42-2	0.001	mg/l	Marine water			
		0.018	mg/l			intermittent release	
		10.000	mg/l			STP	
		0.100	mg/kg	Freshwater sediments			
		0.010	mg/kg	Marine water sediments			
		0.150	mg/kg	Soil (agricultural)			
		2.000	mg/l	Fresh Water			
		0.200	mg/l	Marine water			
		1.000	mg/l			Aquatic intermittent release	
		9.060	mg/kg	Freshwater sediments			
		0.910	mg/kg	Marine water sediments			
		0.630	mg/kg	Soil (agricultural)			
		82.000	mg/l			STP	

Derived No Effect Level. (DNEL)

Component	CAS-No.	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency	Remark
Reaction product: bisphenol-A- (epichlorhydrin)	25068-38-6	8.330	mg/kg	3.571	mg/kg	Human Dermal	Short Term, systemic effects
		0.012	mg/l			Human Inhalation	Short Term, systemic effects
		8.330	mg/kg	3.571	mg/kg	Human Dermal	Long Term, systemic effects
		0.012	mg/l			Human Inhalation	Long Term, systemic effects
				0.750	mg/kg	Human Oral	Short Term, systemic effects
				0.750	mg/kg	Human Oral	Long Term, systemic effects
4-hydroxy-4-methylpentan-2-one	123-42-2	0.240	mg/l	0.120	mg/l	Human Inhalation	Short Term, local effects
		9.400	mg/kg	3.400	mg/kg	Human Dermal	Long Term, systemic effects mg/kg/day
		0.066	mg/l	0.012	mg/l	Human Inhalation	Long Term, systemic effects
		0.066	mg/l	0.012	mg/l	Human Inhalation	Long Term, local effects
				3.400	mg/kg	Human Oral	Long Term, systemic effects mg/kg/day

8.2. Exposure controls

Eye protection:

Eye glasses with side protection.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

N.A.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid

Appearance and colour: whitish

Odour: characteristic

Odour threshold: N.A.

pH: 7.00

Melting point / freezing point: N.A.

Initial boiling point and boiling range: 100 °C (212 °F) Notes: 760 mmHg

Flash point: > 93°C

Evaporation rate: N.A.

Upper/lower flammability or explosive limits: N.A.

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 1.05 kg/l Notes: at 20°C

Solubility in water: Miscible

Solubility in oil: Soluble Aromatic Solvents
Partition coefficient (n-octanol/water): 3.24
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Viscosity: 2,000.00 cPs (at 25°C)
Explosive properties: N.A.
Oxidizing properties: N.A.
Solid/gas flammability: N.A.

9.2. Other information

Substance Groups relevant properties N.A.
Miscibility: N.A.
Conductivity: N.A.

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not Available.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

Reaction product: bisphenol-A-(epichlorhydrin)	a) acute toxicity	LD50 Oral Rat > 15000.00000mg/kg
		LD50 Skin Rabbit 23000.00000mg/kg
4-hydroxy-4-methylpentan-2-one	a) acute toxicity	LD50 Oral Rat 3002.00000mg/kg
		LD50 Skin Rabbit 13750.00000mg/kg

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.

- a) acute toxicity
- b) skin corrosion/irritation
- c) serious eye damage/irritation
- d) respiratory or skin sensitisation
- e) germ cell mutagenicity
- f) carcinogenicity
- g) reproductive toxicity
- h) STOT-single exposure
- i) STOT-repeated exposure
- j) aspiration hazard

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

List of components with eco-toxicological properties

Component	Ident. Numb.	Ecotox Infos
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Reaction product:
bisphenol-A-(epichlorhydrin)

CAS: 25068-38-6 -
EINECS: 500-033-5 -
67-548-EC:
603-074-00-8

LC50 a) Aquatic acute toxicity Fish Oncorhynchus mykiss 2.00000mg/L 96h

EC50 a) Aquatic acute toxicity Daphnia 1.80000mg/L 48h

EC50 a) Aquatic acute toxicity Algae Scenedesmus capricornutum 11.00000mg/L 72h

IC50 a) Aquatic acute toxicity micro-organisms > 42.60000mg/L 18 h

NOEC b) Aquatic chronic toxicity Daphnia 0.30000mg/L 21 d

4-hydroxy-4-methylpentan-2-one

CAS: 123-42-2 -
EINECS: 204-626-7 -
67-548-EC:
603-016-00-1

LC50 Fish Lepomis macrochirus 420.00000mg/L 96h

EC50 Daphnia Daphnia magna > 1000mg/L 48h

IC50 Algae Pseudomonas putida > 1000.00000mg/L 72h

12.2. Persistence and degradability

Component	Persistence/Degradability:
4-hydroxy-4-methylpentan-2-one	Readily biodegradable

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT Ingredients are present

12.6. Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number

3082

14.2. UN proper shipping name

ADR-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN (Number average MW <= 700))

IATA-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN (Number average MW <= 700))

IMDG-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN (Number average MW <= 700))

14.3. Transport hazard class(es)

ADR-Class: 9

IATA-Class: 9

IMDG-Class: 9

14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

14.5. Environmental hazards

Marine pollutant: Yes

Environmental Pollutant: Yes

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 9

ADR - Hazard identification number: 90

ADR-Special Provisions: 274 335 601

ADR Tunnel Restriction Code: 3 (E)

Air (IATA):

IATA-Passenger Aircraft: 964

IATA-Cargo Aircraft: 964

IATA-Label: 9
IATA-Subrisk: -
IATA-Erg: 9L
IATA-Special Provisions: A97 A158

Sea (IMDG):

IMDG-Stowage Code: Category A
IMDG-Stowage Note: -

IMDG-Subrisk: -

IMDG-Special Provisions: 274 335

IMDG-Page: N/A

IMDG-Label: 9

IMDG-EMS: F-A, S-F

IMDG-MFAG: N/A

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

N.A.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) 2015/830

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1

Products belongs to category E2

German Water Hazard Class.

N.A.

15.2. Chemical safety assessment

Chemical Safety Assessment: No

SECTION 16: Other information

Code	Description
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ATE: Acute Toxicity Estimate
 BCF: Biological Concentration Factor
 BEI: Biological Exposure Index
 BOD: Biochemical Oxygen Demand
 CAS: Chemical Abstracts Service (division of the American Chemical Society).
 CAV: Poison Center
 CE: European Community
 CLP: Classification, Labeling, Packaging.
 CMR: Carcinogenic, Mutagenic and Reprotoxic
 COD: Chemical Oxygen Demand
 COV: Volatile Organic Compound
 CSA: Chemical Safety Assessment
 CSR: Chemical Safety Report
 DMEL: Derived Minimal Effect Level
 DNEL: Derived No Effect Level.
 DPD: Dangerous Preparations Directive
 DSD: Dangerous Substances Directive
 EC50: Half Maximal Effective Concentration
 ECHA: European Chemicals Agency
 EINECS: European Inventory of Existing Commercial Chemical Substances.
 ES: Exposure Scenario
 GefStoffVO: Ordinance on Hazardous Substances, Germany.
 GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
 IARC: International Agency for Research on Cancer
 IATA: International Air Transport Association.
 IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
 IC50: half maximal inhibitory concentration
 ICAO: International Civil Aviation Organization.
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
 IMDG: International Maritime Code for Dangerous Goods.
 INCI: International Nomenclature of Cosmetic Ingredients.
 IRCCS: Instituto de Hospitalización y Asistencia de Carácter Científico
 KAFH: Keep away from heat
 KSt: Explosion coefficient.
 LC50: Lethal concentration, for 50 percent of test population.
 LD50: Lethal dose, for 50 percent of test population.
 LDLo: Leathal Dose Low
 N.A.: Not Applicable
 N/A: Not Applicable
 N/D: Not defined/ Not available
 NA: Not available
 NEN1: ND: National emergency telephone number: not available
 NEN2: ND: National emergency telephone number: not available
 NIOSH: National Institute for Occupational Safety and Health
 NOAEL: No Observed Adverse Effect Level
 OSHA: Occupational Safety and Health Administration.
 PBT: Persistent, Bioaccumulative and Toxic
 PGK: Packaging Instruction
 PNEC: Predicted No Effect Concentration.
 PSG: Passengers
 RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
 STEL: Short Term Exposure limit.
 STOT: Specific Target Organ Toxicity.
 TLV: Threshold Limiting Value.
 TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
 vPvB: Very Persistent, Very Bioaccumulative.
 WGK: German Water Hazard Class.

*** Sheet model entirely changed in compliance to regulatory update.**



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

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REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Distribution of the substance

Scenario description :GEST1A_I: Distribution of substance

Sector of use :

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites, **SU8,9:** Manufacture of bulk, large scale substances (including petroleum products); manufacture of fine chemicals

Environmental release category:

ERC1: Manufacture of substances, **ERC2:** Formulation of preparations

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing), **PROC15:** Use as laboratory reagent

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Non-hydrophobic, Readily biodegradable, Low potential to bioaccumulate

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article:Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination

Use suitable eye protection and gloves.

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
General exposures (closed systems)	PROC1			Handle substance within a closed system.		< 0,1	< 0,1	< 0,1			
General exposures (closed systems)	PROC2			Handle substance within a closed system. Ensure material transfers are under containment or extract ventilation.		< 0,1	0,1 - 0,5	0,1 - 0,5			
General exposures (closed systems)	PROC3			Handle substance within a closed system.		0,1 - 0,5	< 0,1	0,1 - 0,5			
General exposures (open systems)	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Process sampling	PROC3			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Laboratory activities	PROC15			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Bulk transfers (closed systems) (open systems)	PROC8b	Outdoor		Ensure operation is undertaken outdoors. (30 %)		0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Drum and small package filling	PROC9			Clear spills immediately.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Equipment cleaning and maintenance	PROC8a			Apply vessel entry procedures including use of forced supplied air. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Avoid carrying out operation for more than 1 hour.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Storage	PROC1, PROC2			Store substance within a closed system.		< 0,1	< 0,1	< 0,1			

*LE : Local effects, SE : Systemic effects***4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).
This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 3

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Formulation of the substance

Scenario description : CGES2_I: Formulation of the substance and its mixtures in batch or continuous operations within closed or contained systems, including incidental exposures during storage, materials transfers, mixing, maintenance, sampling and associated laboratory activities

Sector of use :

SU 10: Formulation

Environmental release category:

ERC2: Formulation of preparations

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC5:** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing), **PROC14:** Production of preparations or articles by tableting, compression, extrusion, pelletisation, **PROC15:** Use as laboratory reagent

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Non-hydrophobic, Readily biodegradable, Low potential to bioaccumulate

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination

Use suitable eye protection and gloves.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Exposure scenario : 4-Hydroxy-4-methylpentan-2-one

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Date 20.10.2011

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
General exposures (closed systems)	PROC1			Handle substance within a closed system.		< 0,1	< 0,1	< 0,1			
General exposures (closed systems)	PROC2			Handle substance within a closed system.		< 0,1	0,1 - 0,5	0,1 - 0,5			
General exposures (closed systems)	PROC3			Handle substance within a closed system.		0,1 - 0,5	< 0,1	0,1 - 0,5			
General exposures (open systems)	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
General exposures (open systems) (as aerosol)	PROC4			Provide extraction ventilation at points where emissions occur.		< 0,1	0,5 - 0,75	0,5 - 1			
Batch processes at elevated temperatures	PROC3			Formulate in enclosed or ventilated mixing vessels. Ensure material transfers are under containment or extract ventilation.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Process sampling	PROC3			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Laboratory activities	PROC15			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Bulk transfers	PROC8b			Remotely vent displaced vapours. Clear spills immediately. Clear transfer lines prior to de-coupling.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Mixing operations (open systems) Mixing operations (open systems) (as aerosol)	PROC5				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Manual Transfer from/pouring from containers	PROC8a				Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			

Exposure scenario : 4-Hydroxy-4-methylpentan-2-one

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Date 20.10.2011

Drum/batch transfers	PROC8b			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Production or preparation of articles by tableting, compression, extrusion or pelletisation	PROC14			No other specific measures identified.		0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Drum and small package filling	PROC9				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Equipment cleaning and maintenance	PROC8a			Apply vessel entry procedures including use of forced supplied air. Drain down and flush system prior to equipment opening or maintenance.	Wear suitable gloves tested to EN374. (80 %)	< 0,1	0,1 - 0,5	0,1 - 0,5			
Storage	PROC1, PROC2			Store substance within a closed system.		< 0,1	< 0,1	< 0,1			

LE : Local effects, **SE** : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).
This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 3

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Use as binders and release agents (industrial)

Scenario description :CGES10_I: Covers the use as binders and release agents within closed or contained systems, including incidental exposures during material transfers, mixing, application, mould forming and casting, and handling of waste.

Sector of use :

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Environmental release category:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles, **ERC5:** Industrial use resulting in inclusion into or onto a matrix

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC6:** Calendering operations, **PROC7:** Industrial spraying, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC10:** Roller application or brushing, **PROC14:** Production of preparations or articles by tableting, compression, extrusion, pelletisation

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article:Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination

Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
Material transfers	PROC1, PROC2, PROC3			No other specific measures identified.		0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Drum/batch transfers	PROC8b				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Mixing operations (closed systems)	PROC3			No other specific measures identified.		0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Mixing operations (open systems)	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Mold forming	PROC14			No other specific measures identified.		0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Casting operations (open systems)	PROC6		Covers the percentage of the substance in the product up to 25 %.	Provide extraction ventilation at points where emissions occur.	Wear suitable gloves tested to EN374. (80 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Spraying Machine	PROC7			Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. (95 %)		0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Spraying Manual	PROC7			Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. (95 %)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,1 - 0,5	0,1 - 0,5	0,75 - 1			
Rolling, Brushing	PROC10			Avoid carrying out operation for more than 4 hours.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			

*LE : Local effects, SE : Systemic effects***4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).
This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 3

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Use as binders and release agents (professional)

Scenario description : CGES10_P: Covers the use as binders and release agents within closed or contained systems, including incidental exposures during material transfers, mixing, application, mould forming and casting, and handling of waste.

Sector of use :

SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Environmental release category:

ERC8a: Wide dispersive indoor use of processing aids in open systems, **ERC8b:** Wide dispersive indoor use of reactive substances in open systems, **ERC8c:** Wide dispersive indoor use resulting in inclusion into or onto a matrix, **ERC8d:** Wide dispersive outdoor use of processing aids in open systems, **ERC8e:** Wide dispersive outdoor use of reactive substances in open systems, **ERC8f:** Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC6:** Calendering operations, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC10:** Roller application or brushing, **PROC11:** Non industrial spraying, **PROC14:** Production of preparations or articles by tableting, compression, extrusion, pelletisation

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination

Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
Material transfers	PROC1, PROC2, PROC3			No other specific measures identified.		0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Drum/batch transfers	PROC8b			Avoid carrying out operation for more than 4 hours.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Mixing operations (open systems)	PROC3			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Mixing operations (open systems)	PROC4			Provide enhanced general ventilation by mechanical means. (50 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Mold forming	PROC14		Covers the percentage of the substance in the product up to 25 %.			0,1 - 0,5	0,1 - 0,5	0,5 - 1			
Casting operations (open systems)	PROC6		Covers the percentage of the substance in the product up to 25 %.	Provide extraction ventilation at points where emissions occur.	Wear suitable gloves tested to EN374. (80 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Spraying Machine	PROC11			Provide extraction ventilation at points where emissions occur. (80 %) If it is not possible : Avoid carrying out operation for more than 4 hours.	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (95 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Rolling, Brushing	PROC10			Avoid carrying out operation for more than 4 hours.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			

LE : Local effects, SE : Systemic effects

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).
This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 3

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Use in functional fluids (industrial)

Scenario description : CGES13_I: Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in closed industrial equipment including incidental exposures during maintenance and related material transfers

Sector of use :

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Environmental release category:

ERC7: Industrial use of substances in closed systems

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination

Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
Bulk transfers (closed systems)	PROC1, PROC2				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Drum/batch transfers	PROC8b				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Pelletizing (closed systems)	PROC9				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Filling/ preparation of equipment from drums or containers.	PROC8a			Use drum pumps or carefully pour from container.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
General exposures (closed systems)	PROC2					0,1 - 0,5	0,1 - 0,5	0,5			
General exposures (open systems)	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
General exposures (open systems) (High temperatures)	PROC4			Provide extraction ventilation at points where emissions occur.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
General exposures (open systems) (High temperatures) (as aerosol)	PROC4			Provide extraction ventilation at points where emissions occur.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Remanufacture of reject articles	PROC9					0,1 - 0,5	< 0,1	0,1 - 0,5			
Equipment maintenance	PROC8a			Drain down system prior to equipment opening or maintenance. (80 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Storage	PROC1, PROC2			Store substance within a closed system.		< 0,1	< 0,1	< 0,1			

LE : Local effects, SE : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category
 SU : Sectors of end-use
 PC : Product category
 ERC : Environmental release category

RCR : Risk characterisation ratio:
 DNEL : Derived No Effect Level (DNEL)
 PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).

This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 2

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Industrial use as laboratory reagent

Scenario description : CGES17_I: Use of the substance within laboratory settings within enclosed or contained systems, including incidental exposures during material transfers and equipment cleaning

Sector of use :

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Environmental release category:

ERC2: Formulation of preparations, **ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

Process category:

PROC10: Roller application or brushing, **PROC15:** Use as laboratory reagent

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination

Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

Specific conditions :

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
Laboratory activities	PROC15			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Cleaning	PROC10				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 0,75			

LE : Local effects, **SE** : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).

This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 2

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Professional use as laboratory reagent

Scenario description : CGES17-P: Use of small quantities within laboratory settings within enclosed or contained systems, including incidental exposures during material transfers and equipment cleaning.

Sector of use :

SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Environmental release category:

ERC8a: Wide dispersive indoor use of processing aids in open systems

Process category:

PROC10: Roller application or brushing, **PROC15:** Use as laboratory reagent

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination

Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
Laboratory activities	PROC15			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Cleaning	PROC10				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 0,75			

LE : Local effects, **SE** : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).

This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 4

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Industrial use as an additive in lubricants and greases

Scenario description : CGES6_I: Covers the use of formulated lubricants within closed or contained systems including incidental exposures during material transfers, operation of machinery/engines and similar articles, equipment maintenance and disposal of wastes.

Sector of use :

SU 3: Industrial Manufacturing (all)

Environmental release category:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles, **ERC7:** Industrial use of substances in closed systems

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC7:** Industrial spraying, **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing), **PROC10:** Roller application or brushing, **PROC13:** Treatment of articles by dipping and pouring, **PROC17:** Lubrication at high energy conditions and in partly open process, **PROC18:** Greasing at high energy conditions

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Non-hydrophobic, Low potential to bioaccumulate

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Control of worker exposure :

General Information characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination
Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
General exposures (closed systems)	PROC1, PROC2			Handle substance within a closed system.		< 0,1	0,1 - 0,5	0,1 - 0,5			
General exposures (closed systems)	PROC3			Handle substance within a closed system.		0,1 - 0,5	< 0,1	0,1 - 0,5			
General exposures (open systems)	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
General exposures (open systems) (as aerosol)	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,5	0,1 - 0,5	0,5 - 0,75			
Bulk transfers	PROC8b				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Filling/ preparation of equipment from drums or containers.	PROC8a			Avoid carrying out operation for more than 4 hours.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Filling/ preparation of equipment from drums or containers.	PROC8b, PROC9				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Initial factory fill of equipment	PROC9				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Operation and lubrication of high energy open equipment	PROC17			Restrict area of openings to equipment. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)		0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Operation and lubrication of high energy open equipment (as aerosol)	PROC17			Restrict area of openings to equipment. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)		0,5 - 0,75	0,1 - 0,5	0,5 - 0,75			
Operation and lubrication of high energy open equipment	PROC18			Restrict area of openings to equipment. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			

Exposure scenario : 4-Hydroxy-4-methylpentan-2-one

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Operation and lubrication of high energy open equipment (as aerosol)	PROC18			Restrict area of openings to equipment. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)	Wear suitable gloves tested to EN374. (80 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Manual roller application or brushing	PROC10			Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). (30 %)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,5	0,1 - 0,5	0,5 - 1			
Treatment by dipping and pouring	PROC13			Allow time for product to drain from workpiece. Ensure material transfers are under containment or extract ventilation.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Spraying	PROC7			Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. (95 %)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 1			
Spraying (as aerosol)	PROC7			Provide extraction ventilation at points where emissions occur.	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (95 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 1			
Maintenance (of larger plant items) and machine set up	PROC8b				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Maintenance (of larger plant items) and machine set up	PROC8b			Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to emission points when contact with warm (>50oC) product is likely.		0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Maintenance of small items	PROC8a			Avoid manual contact with wet work pieces. Avoid carrying out operation for more than 4 hours.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Remanufacture of reject articles	PROC9				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Storage	PROC1, PROC2			Store substance within a closed system.		< 0,1	< 0,1	< 0,1			

LE : Local effects, SE : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).

This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 3

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Metal working fluids / rolling oils

Scenario description : CGES7_I: Covers the use in formulated MWFs/rolling oils within closed or contained systems including incidental exposures during transfer operations, rolling and annealing activities, cutting/machining activities, automated application of corrosion protections, equipment maintenance, draining and disposal of waste oils.

Sector of use :

SU 3: Industrial Manufacturing (all)

Environmental release category:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC5:** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), **PROC7:** Industrial spraying, **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing), **PROC10:** Roller application or brushing, **PROC13:** Treatment of articles by dipping and pouring, **PROC17:** Lubrication at high energy conditions and in partly open process

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination

Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Exposure scenario : 4-Hydroxy-4-methylpentan-2-one

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Date 20.10.2011

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
General exposures (closed systems)	PROC1, PROC2			Handle substance within a closed system.		< 0,1	0,1 - 0,5	0,1 - 0,5			
General exposures (closed systems)	PROC3			Handle substance within a closed system.		0,1 - 0,5	< 0,1	0,1 - 0,5			
General exposures (open systems)	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
General exposures (open systems) (as aerosol)	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,5	0,1 - 0,5	0,5 - 0,75			
Bulk transfers	PROC8b				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Filling/ preparation of equipment from drums or containers.	PROC8b, PROC9				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Filling/ preparation of equipment from drums or containers.	PROC5				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Process sampling	PROC8b			Use dedicated equipment.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Metal machining operations	PROC17			Provide extraction ventilation at points where emissions occur. Restrict area of openings to equipment.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Treatment by dipping and pouring	PROC13			Allow time for product to drain from workpiece.	Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	< 0,1	0,1 - 0,5	0,1 - 0,5			
Spraying	PROC7			Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. (95 %)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 1			

Spraying (as aerosol)	PROC7			Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. (95 %)	Wear suitable gloves (tested to EN374), coverall and eye protection. (80 %)	< 0,1	0,5 - 1	0,5 - 1			
Manual roller application or brushing	PROC10			Provide enhanced general ventilation by mechanical means. (90 %)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	< 0,1	0,1 - 0,5	0,1 - 0,5			
Automated metal rolling/forming	PROC2			No other specific measures identified.		0,5 - 0,75	< 0,1	0,5 - 0,75			
Semi-automated metal rolling/forming Semi-automated metal rolling/forming (as aerosol)	PROC17			Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. (95 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Semi-automated metal rolling/forming	PROC4			Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. (95 %)		0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Equipment cleaning and maintenance Dedicated facility	PROC8b				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Equipment cleaning and maintenance Non-dedicated facility	PROC8a			Avoid carrying out operation for more than 4 hours.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Storage	PROC1, PROC2			Store substance within a closed system.		0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			

*LE : Local effects, SE : Systemic effects***4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.**Thesaurus:**

PROC : Process category
 SU : Sectors of end-use
 PC : Product category
 ERC : Environmental release category

RCR : Risk characterisation ratio:
 DNEL : Derived No Effect Level (DNEL)
 PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).
 This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

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REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Use in Oil and Gas field drilling and production operations

Scenario description : CGES5_I: Oil field well drilling and production operations (including drilling muds and well cleaning) within closed or contained systems including incidental exposures during material transfers, on-site and activities and related maintenance.

Sector of use : SU 3: Industrial Manufacturing (all)	
Environmental release category: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles	Process category: PROC1: Use in closed process, no likelihood of exposure, PROC2: Use in closed, continuous process with occasional controlled exposure, PROC3: Use in closed batch process (synthesis or formulation), PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises, PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

3. Risk characterisation ratio:

Compartment:	Exposure Assessment Method:
All (environment)	As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Control of worker exposure :

General Information characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination
Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

Exposure routes:	Exposure Assessment Method:
All (worker)	ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
Bulk transfers General exposures (closed systems)	PROC8b			Avoid carrying out operation for more than 1 hour. Handle substance within a closed system.	Wear suitable gloves tested to EN374. (80 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Filling/ preparation of equipment from drums or containers.	PROC8b			Handle substance within a closed system.	Wear suitable gloves tested to EN374. (80 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Drilling mud (re-)formulation	PROC3			Handle substance within a closed system. Ensure material transfers are under containment or extract ventilation.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Drill floor operations	PROC4	Outdoor		Ensure operation is undertaken outdoors. (30 %)	Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Operation of solids filtering equipment - vapour exposures (High temperatures)	PROC4			Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. (95 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Operation of solids filtering equipment - aerosol exposures (High temperatures)	PROC4			Formulate in enclosed or ventilated mixing vessels. Ensure material transfers are under containment or extract ventilation.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Cleaning	PROC8a			Ensure material transfers are under containment or extract ventilation. Avoid dip sampling.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Treatment and disposal of filtered solids	PROC3			Handle in a fume cupboard or under extract ventilation.		0,5 - 1	< 0,1	0,5 - 0,75			

Process sampling	PROC3			Remotely vent displaced vapours. Clear spills immediately. Clear transfer lines prior to de-coupling. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)		0,5 - 0,75	< 0,1	0,5 - 0,75			
General exposures (closed systems)	PROC1			No other specific measures identified.		< 0,1	< 0,1	< 0,1			
Pouring from small containers	PROC8a			Avoid carrying out operation for more than 15 minutes. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Scale squeeze operations	PROC4			Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %) Use drum pumps or carefully pour from container.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Equipment cleaning and maintenance	PROC8a			Avoid spillage when withdrawing pump. Use drum pumps or carefully pour from container.	Wear suitable gloves tested to EN374. (80 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
General exposures (closed systems)	PROC1, PROC2			Handle substance within a closed system. Provide extraction ventilation at points where emissions occur. (90 %)		0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			

LE : Local effects, **SE** : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).
This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

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REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Polymers processing (industrial)

Scenario description : CGES23_I: Processing of formulated polymers within closed or contained systems, including incidental exposures during material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance.

Sector of use :

SU 3: Industrial Manufacturing (all)

Environmental release category:

ERC3: Formulation in materials, **ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles, **ERC5:** Industrial use resulting in inclusion into or onto a matrix, **ERC6d:** Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC5:** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), **PROC6:** Calendering operations, **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing), **PROC13:** Treatment of articles by dipping and pouring, **PROC14:** Production of preparations or articles by tableting, compression, extrusion, pelletisation, **PROC21:** Low energy manipulation of substances bound in materials and/ or articles

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination
Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
Bulk transfers (closed systems)	PROC1, PROC2			No other specific measures identified.		< 0,1	0,1 - 0,5	0,1 - 0,5			
Bulk transfers	PROC8b, PROC9			Handle substance within a closed system.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Bulk weighing	PROC1, PROC2			Handle substance within a closed system.		< 0,1	0,5 - 0,75	0,5 - 1			
Small scale weighing	PROC9				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Additive premixing	PROC3, PROC4, PROC5				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Calendering (including Banburys) Calendering (including Banburys) (as aerosol)	PROC6			Ensure material transfers are under containment or extract ventilation.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Polyol processes	PROC13		Covers the percentage of the substance in the product up to 25 %.		Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Extrusion and masterbatching Injection moulding of articles	PROC14			Provide enhanced general ventilation by mechanical means. (50 %)		0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Finishing operations	PROC21			No other specific measures identified.		< 0,1	0,1 - 0,5	0,1 - 0,5			
Equipment maintenance	PROC8a			Avoid carrying out operation for more than 1 hour.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Storage	PROC1, PROC2			Store substance within a closed system.		< 0,1	< 0,1	< 0,1			

LE : Local effects, **SE** : Systemic effects**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

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This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 2

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Polymers processing (professional)

Scenario description : CGES24_P: Processing of formulated polymers within closed or contained systems, including incidental exposures during material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance.

Sector of use :

SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Environmental release category:

ERC8a: Wide dispersive indoor use of processing aids in open systems, **ERC8c:** Wide dispersive indoor use resulting in inclusion into or onto a matrix, **ERC8d:** Wide dispersive outdoor use of processing aids in open systems, **ERC8f:** Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC6:** Calendering operations, **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC14:** Production of preparations or articles by tableting, compression, extrusion, pelletisation, **PROC21:** Low energy manipulation of substances bound in materials and/ or articles

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination

Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
Bulk transfers (closed systems)	PROC1, PROC2			No other specific measures identified.		0,1 - 0,5	0,1 - 0,5	0,5			
Material transfers	PROC8b			Ensure material transfers are under containment or extract ventilation.		0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Injection moulding of articles	PROC6			Ensure material transfers are under containment or extract ventilation.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 0,75			
Injection moulding of articles	PROC14			Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (50 %)		0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Rework of articles	PROC21			No other specific measures identified.		< 0,1	0,1 - 0,5	0,1 - 0,5			
Equipment maintenance	PROC8a			Drain or remove substance from equipment prior to break-in or maintenance. (80 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Storage	PROC1, PROC2			Store substance within a closed system.		0,1 - 0,5	0,1 - 0,5	0,5			

*LE : Local effects, SE : Systemic effects***4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario****For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.****Thesaurus:**

PROC : Process category
 SU : Sectors of end-use
 PC : Product category
 ERC : Environmental release category

RCR : Risk characterisation ratio:
 DNEL : Derived No Effect Level (DNEL)
 PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).
 This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 3

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Use in agrochemicals

Scenario description :GEST11_P: Use in agrochemicals

Sector of use :

SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Environmental release category:

ERC8a: Wide dispersive indoor use of processing aids in open systems, ERC8d: Wide dispersive outdoor use of processing aids in open systems

Process category:

PROC1: Use in closed process, no likelihood of exposure, PROC2: Use in closed, continuous process with occasional controlled exposure, PROC3: Use in closed batch process (synthesis or formulation), PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises, PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, PROC11: Non industrial spraying, PROC13: Treatment of articles by dipping and pouring

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Control of worker exposure :

General Information characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article:Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination
Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
Transfer from/pouring from containers	PROC8b				Wear suitable gloves tested to EN374. (80 %)	0,5 - 0,75	< 0,1	0,5 - 1			
Mixing	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Spraying/ fogging by manual application	PROC11	Outdoor		Avoid carrying out operation for more than 4 hours. Ensure operation is undertaken outdoors. (30 %)	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (95 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Spraying/ fogging by manual application (as aerosol)	PROC11			Avoid carrying out operation for more than 4 hours.	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (95 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Spraying/ fogging by machine application	PROC11			Provide extraction ventilation at points where emissions occur.		0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Spraying/ fogging by machine application (as aerosol)	PROC11			Provide extraction ventilation at points where emissions occur.		0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Ad hoc manual application via trigger sprays, dipping, etc.	PROC13				Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Operation on equipment containing engine oils and similar Disposal of wastes	PROC8a				Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Storage	PROC1, PROC2			Store substance within a closed system.		0,1 - 0,5	< 0,1	0,1 - 0,5			

LE : Local effects, SE : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).

This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 3

REACH Registration Number: 01-2119473975-21-0000

Date 09.08.2012 (*Cancel and replace* : 20.10.2011)

1. Title of Exposure Scenario : Use in cleaning products (industrial)

Scenario description : CGES4_I: Covers the use as a component of cleaning products within closed or contained systems including incidental exposures during transfer from storage, mixing/diluting in the preparatory phase and cleaning activities, related equipment cleaning and maintenance.

Sector of use :

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Environmental release category:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC7:** Industrial spraying, **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC10:** Roller application or brushing, **PROC13:** Treatment of articles by dipping and pouring

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination.

Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Exposure scenario : 4-Hydroxy-4-methylpentan-2-one

Page: 2 / 3
Date 09.08.2012 (*Cancel and replace* : 20.10.2011)

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
General exposures (closed systems)	PROC1			Handle substance within a closed system.		< 0,1	< 0,1	< 0,1			
Bulk transfers	PROC8a				Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Automated process with (semi) closed systems. Use in contained systems	PROC2			No other specific measures identified.		< 0,1	0,1 - 0,5	0,1 - 0,5			
Automated process with (semi) closed systems. Drum/batch transfers Use in contained systems	PROC3			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Application of cleaning products in closed systems	PROC2			No other specific measures identified.		< 0,1	0,1 - 0,5	0,1 - 0,5			
Filling/ preparation of equipment from drums or containers.	PROC8b, PROC9				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Use in contained batch processes	PROC4			Provide extraction ventilation at points where emissions occur. (90 %) Avoid carrying out operation for more than 4 hours.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Use in contained batch processes	PROC4			If technical measures not practical: Avoid carrying out operation for more than 4 hours.	Wear suitable gloves tested to EN374. (80 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Degreasing small objects in cleaning station	PROC13				Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,5 - 1	0,1 - 0,5	0,5 - 0,75			

Exposure scenario : 4-Hydroxy-4-methylpentan-2-one

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Date 09.08.2012 (*Cancel and replace* : 20.10.2011)

Cleaning with low-pressure washers	PROC10			Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Cleaning with high pressure washers	PROC7			Avoid carrying out operation for more than 4 hours. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (95 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Manual Surfaces Cleaning no spraying	PROC10			Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			

LE : Local effects, **SE** : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category
SU : Sectors of end-use
PC : Product category
ERC : Environmental release category

RCR : Risk characterisation ratio:
DNEL : Derived No Effect Level (DNEL)
PNEC : Predicted No Effect Concentration (PNEC)

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This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 3

REACH Registration Number: 01-2119473975-21-0000

Date 09.08.2012 (*Cancel and replace* : 20.10.2011)

1. Title of Exposure Scenario : Use in cleaning products (professional)

Scenario description : CGES4_P: Covers the use as a component of cleaning products within closed or contained systems including incidental exposures during transfer from storage, mixing/diluting in the preparatory phase and cleaning activities, related equipment cleaning and maintenance.

Sector of use :

SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Environmental release category:

ERC8a: Wide dispersive indoor use of processing aids in open systems, **ERC8d:** Wide dispersive outdoor use of processing aids in open systems

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC10:** Roller application or brushing, **PROC11:** Non industrial spraying, **PROC13:** Treatment of articles by dipping and pouring

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination.

Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Exposure scenario : 4-Hydroxy-4-methylpentan-2-one

Page: 2 / 3
Date 09.08.2012 (*Cancel and replace* : 20.10.2011)

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
General exposures (closed systems)	PROC1			Handle substance within a closed system.		< 0,1	< 0,1	< 0,1			
Filling/ preparation of equipment from drums or containers.	PROC8b			Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. (30 %)	Wear suitable gloves tested to EN374. (80 %)	0,5	0,1 - 0,5	0,5 - 1			
Automated process with (semi) closed systems. Use in contained systems	PROC2			No other specific measures identified.		0,1 - 0,5	0,1 - 0,5	0,5			
Automated process with (semi) closed systems. Use in contained systems Drum/batch transfers	PROC3			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Semi Automated process. (e.g.: Semi automatic application of floor care and maintenance products)	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Filling/ preparation of equipment from drums or containers.	PROC8a	Outdoor		Ensure operation is undertaken outdoors. (30 %) Avoid carrying out operation for more than 1 hour.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Manual Surfaces Cleaning Dipping, immersion and pouring	PROC13			Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. (30 %)	Wear suitable gloves tested to EN374. (80 %)	0,5	0,1 - 0,5	0,5 - 1			
Cleaning with low-pressure washers Rolling, Brushing no spraying	PROC10		Covers the percentage of the substance in the product up to 25 %.	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			

Exposure scenario : 4-Hydroxy-4-methylpentan-2-one

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Date 09.08.2012 (*Cancel and replace* : 20.10.2011)

Cleaning with high pressure washers Spraying	PROC11		Covers percentage substance in the product up to 1 %.	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. (30 %)	Wear suitable gloves tested to EN374. (80 %)	0,5	0,1 - 0,5	0,5 - 0,75			
Manual Surfaces Cleaning Spraying	PROC10		Covers the percentage of the substance in the product up to 25 %.	Avoid carrying out operation for more than 4 hours. Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. (30 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 1			
Ad hoc manual application via trigger sprays, dipping, etc. Rolling, Brushing	PROC10		Covers the percentage of the substance in the product up to 25 %.	Provide extraction ventilation at points where emissions occur. (80 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Ad hoc manual application via trigger sprays, dipping, etc. Rolling, Brushing	PROC10		Covers the percentage of the substance in the product up to 25 %.	Avoid carrying out operation for more than 4 hours.	Wear suitable gloves tested to EN374. (80 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Application of cleaning products in closed systems	PROC4	Outdoor		Ensure operation is undertaken outdoors. (30 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Cleaning of medical devices	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			

LE : Local effects, **SE** : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category
SU : Sectors of end-use
PC : Product category
ERC : Environmental release category

RCR : Risk characterisation ratio:
DNEL : Derived No Effect Level (DNEL)
PNEC : Predicted No Effect Concentration (PNEC)

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This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

Page: 1 / 3

REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Use in coating (industrial)

Scenario description : CGES3_J: Covers the use in coatings (paints, inks, adhesives, etc) within closed or contained systems including incidental exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application activities and film formation) and equipment cleaning, maintenance and associated laboratory activities.

Sector of use :

SU 3: Industrial Manufacturing (all)

Environmental release category:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC5:** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), **PROC7:** Industrial spraying, **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing), **PROC10:** Roller application or brushing, **PROC13:** Treatment of articles by dipping and pouring, **PROC14:** Production of preparations or articles by tableting, compression, extrusion, pelletisation, **PROC15:** Use as laboratory reagent

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information

characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination
Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Exposure scenario : 4-Hydroxy-4-methylpentan-2-one

Page: 2 / 3
Date 20.10.2011

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
General exposures (closed systems)	PROC1			Handle substance within a closed system.		< 0,1	< 0,1	< 0,1			
General exposures (closed systems) with sample collection Use in contained systems	PROC2			Handle substance within a closed system. Ensure material transfers are under containment or extract ventilation.		< 0,1	0,1 - 0,5	0,1 - 0,5			
Film formation - force drying (50 - 100°C). Stoving (>100°C). UV/EB radiation curing	PROC2			Handle substance within a closed system.		0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Mixing operations (closed systems) General exposures (closed systems)	PROC3			Handle substance within a closed system.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Film formation - air drying	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Preparation of material for application Mixing operations (open systems) (as aerosol)	PROC5				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Spraying (automatic/robotic)	PROC7			Carry out in a vented booth provided with laminar airflow. (99 %)	Wear suitable gloves tested to EN374. (80 %)	< 0,1	0,5 - 1	0,5 - 1			
Spraying Manual	PROC7			Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. (30 %)	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (95 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,5	0,1 - 0,5	0,5 - 0,75			
Material transfers	PROC8a			Clear transfer lines prior to de-coupling.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Material transfers	PROC8b			Clear transfer lines prior to de-coupling.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			

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Roller, spreader, flow application	PROC10				Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (95 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Dipping, immersion and pouring	PROC13			Avoid manual contact with wet work pieces. Provide extraction ventilation at points where emissions occur.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Laboratory activities	PROC15			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Material transfers Drum/batch transfers Transfer from/pouring from containers	PROC9				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Production or preparation of articles by tableting, compression, extrusion or pelletisation	PROC14			No other specific measures identified.		0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			

LE : Local effects, **SE** : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).
This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

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REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Use in coating (professional)

Scenario description : CGES3_P: Covers the use in coatings (paints, inks, adhesives, etc) within closed or contained systems including incidental exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application activities and film formation) and equipment cleaning, maintenance and associated laboratory activities.

Sector of use :

SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Environmental release category:

ERC8a: Wide dispersive indoor use of processing aids in open systems, **ERC8c:** Wide dispersive indoor use resulting in inclusion into or onto a matrix, **ERC8d:** Wide dispersive outdoor use of processing aids in open systems, **ERC8f:** Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Process category:

PROC1: Use in closed process, no likelihood of exposure, **PROC2:** Use in closed, continuous process with occasional controlled exposure, **PROC3:** Use in closed batch process (synthesis or formulation), **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises, **PROC5:** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, **PROC10:** Roller application or brushing, **PROC11:** Non industrial spraying, **PROC13:** Treatment of articles by dipping and pouring, **PROC15:** Use as laboratory reagent, **PROC19:** Hand-mixing with intimate contact and only PPE available

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information characteristic:

Liquid, vapour pressure < 0.5 kPa
Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations
Recovery : Accidental release measures : See chapter 6

Control of worker exposure :

General Information characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination
Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
General exposures (closed systems)	PROC1			Handle substance within a closed system.		< 0,1	< 0,1	< 0,1			
Filling/ preparation of equipment from drums or containers.	PROC2			Handle substance within a closed system.		0,1 - 0,5	0,1 - 0,5	0,5			
General exposures (closed systems) Use in contained systems	PROC2			Handle substance within a closed system.		0,1 - 0,5	0,1 - 0,5	0,5			
Preparation of material for application	PROC3			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Film formation - air drying	PROC4	Outdoor		Ensure operation is undertaken outdoors. (30 %)	Wear suitable gloves tested to EN374. (80 %)	0,5	0,1 - 0,5	0,5 - 0,75			
Film formation - air drying	PROC4	Indoor		Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. (30 %)		0,5	< 0,1	0,5 - 0,75			
Preparation of material for application	PROC5			Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. (30 %) or Ensure operation is undertaken outdoors. (30 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,75 - 1			
Material transfers Drum/batch transfers	PROC8a			Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (95 %)	0,5 - 0,75	< 0,1	0,5 - 0,75			
Material transfers Drum/batch transfers	PROC8b				Wear suitable gloves tested to EN374. (80 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			

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Roller, spreader, flow application	PROC10	Indoor		Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (70 %)	Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (98 %)	0,5 - 0,75	< 0,1	0,5 - 0,75			
Roller, spreader, flow application	PROC10	Outdoor		Ensure operation is undertaken outdoors. (30 %)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Spraying Manual	PROC11	Indoor		Avoid carrying out operation for more than 1 hour. Carry out in a vented booth or extracted enclosure.	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (95 %)	0,1 - 0,5	0,5 - 0,75	0,5 - 1			
Spraying Manual	PROC11	Outdoor		Ensure operation is undertaken outdoors. (30 %)	Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (98 %) Wear a respirator conforming to EN140 with Type A filter or better. (90 %)	0,1 - 0,5	0,1 - 0,5	0,5 - 0,75			
Dipping, immersion and pouring	PROC13	Indoor		Avoid manual contact with wet work pieces. Provide extraction ventilation at points where emissions occur.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Dipping, immersion and pouring	PROC13	Outdoor		Avoid manual contact with wet work pieces. Ensure operation is undertaken outdoors. (30 %)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (90 %)	0,5	0,1 - 0,5	0,5 - 0,75			
Laboratory activities	PROC15			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
Hand application - fingerpaints, pastels, adhesives	PROC19	Indoor		Ensure doors and windows are opened.	Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (98 %)	0,5 - 0,75	0,1 - 0,5	0,5 - 1			
Hand application - fingerpaints, pastels, adhesives	PROC19	Outdoor		Avoid carrying out operation for more than 15 minutes. Ensure operation is undertaken outdoors. (30 %)	Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (98 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			

LE : Local effects, SE : Systemic effects

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category

SU : Sectors of end-use

PC : Product category

ERC : Environmental release category

RCR : Risk characterisation ratio:

DNEL : Derived No Effect Level (DNEL)

PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).

This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.



Exposure scenario

according to Regulation (EC) No. 1907/2006

4-Hydroxy-4-methylpentan-2-one

(EC-No. 204-626-7 CAS-No. 123-42-2)

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REACH Registration Number: 01-2119473975-21-0000

Date 20.10.2011

1. Title of Exposure Scenario : Water treatment chemicals

Scenario description :CGES21_I: Covers the use of the substance for the treatment of water at industrial facilities in closed or contained systems including incidental exposures during material transfers and equipment cleaning.

Sector of use :

SU 3: Industrial Manufacturing (all)

Environmental release category:

ERC3: Formulation in materials, ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Process category:

PROC1: Use in closed process, no likelihood of exposure, PROC2: Use in closed, continuous process with occasional controlled exposure, PROC3: Use in closed batch process (synthesis or formulation), PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises, PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, PROC13: Treatment of articles by dipping and pouring

2. Conditions of use - Exposure estimation and reference to its source

Control of environmental exposure :

General Information characteristic:

Liquid, vapour pressure < 0.5 kPa

Readily biodegradable, Low potential to bioaccumulate, Non-hydrophobic

General risk management measures applicable to all activities:

Waste treatment : See chapter 13. Disposal considerations

Recovery : Accidental release measures : See chapter 6

3. Risk characterisation ratio:

Compartment:

All (environment)

Exposure Assessment Method:

As the substance doesn't meet the criteria for classification and is neither PBT nor vPvB, according to REACH regulation, article 14(4), development of specific exposure scenarios is not required.

Control of worker exposure :

General Information characteristic:

Liquid, vapour pressure < 0.5 kPa

Frequency and duration of use: Covers daily exposures up to 8 hours (unless stated differently).

Concentration of the Substance in Mixture/Article:Covers the percentage of the substance in the product up to 100 % (unless stated differently).

General risk management measures applicable to all activities:

Assumes a good basic standard of occupational hygiene is implemented. Avoid splashing. Avoid dispersal of spilled material. Avoid direct eye contact with product, including via hands contamination
Use suitable eye protection and gloves.

Assumes use at not more than 20°C above ambient temperature (unless stated differently).

Exposure routes:

All (worker)

Exposure Assessment Method:

ECETOC TRA, The long term exposure assessment covers the short term effects.

Specific conditions :

Contributing Scenario	PROC	Operational conditions	Concentration of the Substance in Mixture/Article	Risk Management Measures	Conditions and measures related to personal protection, hygiene and health evaluation	Risk characterisation ratio: (Long term)			Risk characterisation ratio: (Short term)		
						Inhalation	Dermal	Combined routes	Inhalation	Dermal	Combined routes
Bulk transfers	PROC2			Handle substance within a closed system.		< 0,1	0,1 - 0,5	0,1 - 0,5			
Drum/batch transfers	PROC8b				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
General exposures (closed systems)	PROC3			No other specific measures identified.		0,1 - 0,5	< 0,1	0,1 - 0,5			
General exposures (open systems)	PROC4				Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,5			
Pouring from small containers	PROC13			Avoid carrying out operation for more than 1 hour.	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Equipment maintenance	PROC8a			Drain or remove substance from equipment prior to break-in or maintenance. (80 %)	Wear suitable gloves tested to EN374. (80 %)	0,1 - 0,5	0,1 - 0,5	0,1 - 0,5			
Storage	PROC1			Store substance within a closed system.		< 0,1	< 0,1	< 0,1			

*LE : Local effects, SE : Systemic effects***4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

Thesaurus:

PROC : Process category
 SU : Sectors of end-use
 PC : Product category
 ERC : Environmental release category

RCR : Risk characterisation ratio:
 DNEL : Derived No Effect Level (DNEL)
 PNEC : Predicted No Effect Concentration (PNEC)

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).
 This Exposure Scenario may not be exhaustive. Please contact your supplier should you need additional information.

Section 1	Exposure Scenario: Worker	Total number of pages: 41
Title	Manufacture of substance, industrial	
Sector of Use	SU3; SU8	
Process Category	PROC2; PROC8b; PROC15	
Product Category	PC19	
Article Category	n/a	
Environmental Release Category	ERC1	
Specific Environmental Release Category	n/a	
Processes, tasks, activities covered		
Section 2	Operational conditions and risk management measures	
Product / article characteristics		
Physical form of product/article	Liquid	
Volatility	Liquid, vapour pressure < 0.5 kPa at STP	
Dustiness	n/a	
Concentration in a preparation/product (wt.%)	<100	
Other product/article characteristics	n/a	
Section 2.1	Control of worker exposure	
Operational conditions		
Amounts used	n/a	
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)	
Human factors not influenced by risk management	n/a	
Other Operational Conditions affecting worker exposure	Operation is carried out at elevated temperature (> 20°C above ambient temperature)	
Risk Management Measures		
Contributing Scenarios		
Contributing Scenario	Process sampling Mixing operations (closed systems)	
Technical measures to prevent release	Handle substance within a closed system	
Technical measures to prevent dispersion	n/a	
Organizational measures	Avoid carrying out operation for more than 4 hours	
Personal Protection	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	
Contributing Scenario	Product packaging	
Technical measures to prevent release	n/a	
Technical measures to prevent dispersion	Provide extract ventilation to points where emissions occur	
Organizational measures	n/a	
Personal Protection	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

Contributing Scenario	Laboratory activities
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Section 2.2 Control of environmental exposure	
Operational conditions	
Amounts used (kg/d)	394000
Frequency of use	Continuous release.
Duration of use (Emission Days/year)	300
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. Local marine water dilution factor: 100.
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): 0 Release fraction to wastewater from process (initial release prior to RMM): 0.0000003 Release fraction to soil from process (initial release prior to RMM): 0
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Wet scrubber - for gas removal: 70%
Organisation measures to prevent/limit release from site	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Prevent discharge of undissolved substance to waste water or recover from wastewater.
Conditions and measures related to municipal sewage treatment plant	n/a
Conditions and measures related to external treatment of waste for disposal	n/a
Conditions and measures related to external recovery of waste	n/a
Other environmental measures	Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases A leak prevention plan is needed to prevent low level continual releases A storm water management plan is needed to ensure that the wastewater treatment plant is not overloaded with uncontaminated water Bund storage facilities to prevent soil and water pollution in the event of spillage
Section 3	Exposure Estimation

3.1 Health	
<i>The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.</i>	
3.2 Environment	
<i>Used EUSES model</i>	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	
<i>Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</i>	
4.2 Environment	
<i>Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).</i>	

Section 1	Exposure Scenario: Worker
Title	Formulation & (re)packing of substances and mixtures, industrial
Sector of Use	SU3; SU8; SU10
Process Category	PROC3; PROC4; PROC5; PROC8b; PROC9
Product Category	PC19; PC32
Article Category	n/a
Environmental Release Category	ERC2; ERC6a
Specific Environmental Release Category	CEPE SPERC 2.2a.v1 (CEPE M1)
Processes, tasks, activities covered	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.
Section 2	Operational conditions and risk management measures
Product / article characteristics	
Physical form of product/article	Liquid
Volatility	Liquid, vapour pressure < 0.5 kPa at STP
Dustiness	n/a
Concentration in a preparation/product (wt.%)	<100
Other product/article characteristics	n/a
Section 2.1	Control of worker exposure
Operational conditions	
Amounts used	n/a
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)
Human factors not influenced by risk management	n/a
Other Operational Conditions affecting worker exposure	n/a
Risk Management Measures	
Contributing Scenarios	
Contributing Scenario	Bulk transfers
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Contributing Scenario	Mixing operations (closed systems)
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	Laboratory activities
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	Polymerisation (bulk and batch)
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	Drum and small package filling
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	Disposal of wastes
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>

Contributing Scenario	Maintenance (of larger plant items) and machine set up
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Contributing Scenario	Use in batch processes
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Section 2.2	Control of environmental exposure
Operational conditions	
Amounts used (kg/d)	1790
Frequency of use	Continuous release.
Duration of use (Emission Days/year)	225
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. Local marine water dilution factor: 100.
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): 9.70E-05 Release fraction to wastewater from process (initial release prior to RMM): 5.00E-05 Release fraction to soil from process (initial release prior to RMM): 0
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	Discharge to aquatic environment is restricted (see Section 4.2).
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	n/a
Organisation measures to prevent/limit release from site	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	n/a
Conditions and measures related to external treatment of waste for disposal	n/a
Conditions and measures related to external recovery of waste	n/a

Other environmental measures	<p><i>Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases</i></p> <p><i>A leak prevention plan is needed to prevent low level continual releases</i></p> <p><i>Prevent leaks and prevent soil / water pollution caused by leaks</i></p>
Section 3	Exposure Estimation
3.1 Health	
<i>The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.</i>	
3.2 Environment	
<i>Used EUSES model</i>	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	
<p><i>Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.</i></p> <p><i>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</i></p>	
4.2 Environment	
<p><i>Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).</i></p>	

Section 1	Exposure Scenario: Worker
Title	<i>Use in Powder Coatings, industrial</i>
Sector of Use	SU3; SU10; SU17; SU19
Process Category	PROC1; PROC2; PROC3; PROC5; PROC6; PROC7; PROC8a; PROC8b; PROC9; PROC10; PROC13
Product Category	PC32; PC9a
Article Category	n/a
Environmental Release Category	ERC4a; ERC5; ERC8c
Specific Environmental Release Category	CEPE SPERC 5.na.v1; EMPAC SPERC 5.1.v1; ECCA SPERC 5.1a.v1
Processes, tasks, activities covered	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Section 2	Operational conditions and risk management measures
Product / article characteristics	
Physical form of product/article	Liquid
Volatility	Liquid, vapour pressure < 0.5 kPa at STP
Dustiness	n/a
Concentration in a preparation/product (wt.%)	<40
Other product/article characteristics	n/a
Section 2.1	Control of worker exposure
Operational conditions	
Amounts used	n/a
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)
Human factors not influenced by risk management	n/a
Other Operational Conditions affecting worker exposure	n/a
Risk Management Measures	
Contributing Scenarios	
Storage Bulk transfers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage Drum/batch transfers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage Drum/batch transfers Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Bulk product storage Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Preparation of material for application Continuous process (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Batch process Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Batch process Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Transfer from/pouring from containers	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Continuous process (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Batch process Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Batch process Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Treatment by dipping and pouring	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - air drying	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenance Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenance Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste collection and storage Transfer from/pouring from containers	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Laboratory activities	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste collection and storage Storage	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Spraying	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear a respirator conforming to EN140 with Type A filter or better.
Rolling, Brushing	Provide extract ventilation to points where emissions occur; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Batch process	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Calendering (including Banburys)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Drum and small package filling	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Section 2.2 Control of environmental exposure	
Operational conditions	
Amounts used (kg/d)	915
Frequency of use	Continuous release.
Duration of use (Emission Days/year)	220
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. Local marine water dilution factor: 100.
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): .002 Release fraction to wastewater from process (initial release prior to RMM): 0 Release fraction to soil from process (initial release prior to RMM): 0
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	Discharge to aquatic environment is restricted (see Section 4.2).
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Dust collection - air cyclon: 70%
Organisation measures to prevent/limit release from site	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Prevent discharge of undissolved substance to waste water or recover from wastewater.
Conditions and measures related to municipal sewage treatment plant	n/a
Conditions and measures related to external treatment of waste for disposal	n/a
Conditions and measures related to external recovery of waste	n/a

Other environmental measures	<p><i>Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases</i></p> <p><i>A leak prevention plan is needed to prevent low level continual releases</i></p> <p><i>Prevent leaks and prevent soil / water pollution caused by leaks</i></p> <p><i>Bund storage facilities to prevent soil and water pollution in the event of spillage</i></p>
Section 3	Exposure Estimation
3.1 Health	
<i>The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.</i>	
3.2 Environment	
<i>Used EUSES model</i>	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	
<p><i>Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.</i></p> <p><i>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</i></p>	
4.2 Environment	
<p><i>Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).</i></p>	

Section 1	Exposure Scenario: Worker
Title	<i>Use in Can and Coil Coatings, industrial</i>
Sector of Use	SU3; SU10; SU17; SU19
Process Category	PROC1; PROC2; PROC3; PROC5; PROC6; PROC7; PROC8a; PROC8b; PROC9; PROC10; PROC13
Product Category	PC32; PC9a
Article Category	n/a
Environmental Release Category	ERC4a; ERC5; ERC8c
Specific Environmental Release Category	CEPE SPERC 5.na.v1; EMPAC SPERC 5.1.v1; ECCA SPERC 5.1a.v1
Processes, tasks, activities covered	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Section 2	Operational conditions and risk management measures
Product / article characteristics	
Physical form of product/article	Liquid
Volatility	Liquid, vapour pressure < 0.5 kPa at STP
Dustiness	n/a
Concentration in a preparation/product (wt.%)	<40
Other product/article characteristics	n/a
Section 2.1	Control of worker exposure
Operational conditions	
Amounts used	n/a
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)
Human factors not influenced by risk management	n/a
Other Operational Conditions affecting worker exposure	n/a
Risk Management Measures	
Contributing Scenarios	
Storage Bulk transfers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage Drum/batch transfers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage Drum/batch transfers Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Bulk product storage Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Preparation of material for application Continuous process (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Batch process Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Batch process Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Transfer from/pouring from containers	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Continuous process (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Batch process Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Batch process Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Treatment by dipping and pouring	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - air drying	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenance Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenance Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste collection and storage Transfer from/pouring from containers	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Laboratory activities	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste collection and storage Storage	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Spraying	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear a respirator conforming to EN140 with Type A filter or better.
Rolling, Brushing	Provide extract ventilation to points where emissions occur; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Batch process	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Calendering (including Banburys)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Drum and small package filling	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Section 2.2 Control of environmental exposure	
Operational conditions	
Amounts used (kg/d)	3550
Frequency of use	Continuous release.
Duration of use (Emission Days/year)	220
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. Local marine water dilution factor: 100.
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): 1.70E-03 Release fraction to wastewater from process (initial release prior to RMM): 0 Release fraction to soil from process (initial release prior to RMM): 0
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	Discharge to aquatic environment is restricted (see Section 4.2).
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	n/a
Organisation measures to prevent/limit release from site	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Prevent discharge of undissolved substance to waste water or recover from wastewater.
Conditions and measures related to municipal sewage treatment plant	n/a
Conditions and measures related to external treatment of waste for disposal	n/a
Conditions and measures related to external recovery of waste	n/a

Other environmental measures	<p><i>Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases</i></p> <p><i>A leak prevention plan is needed to prevent low level continual releases</i></p> <p><i>Prevent leaks and prevent soil / water pollution caused by leaks</i></p> <p><i>Bund storage facilities to prevent soil and water pollution in the event of spillage</i></p>
Section 3	Exposure Estimation
3.1 Health	
<p><i>The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.</i></p>	
3.2 Environment	
<p><i>Used EUSES model</i></p>	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	
<p><i>Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.</i></p> <p><i>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</i></p>	
4.2 Environment	
<p><i>Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).</i></p>	

Section 1	Exposure Scenario: Worker
Title	<i>Use in Automotive Coatings, industrial</i>
Sector of Use	SU3; SU10; SU17; SU19
Process Category	PROC1; PROC2; PROC3; PROC5; PROC6; PROC7; PROC8a; PROC8b; PROC9; PROC10; PROC13
Product Category	PC32; PC9a
Article Category	n/a
Environmental Release Category	ERC4a; ERC5; ERC8c
Specific Environmental Release Category	CEPE SPERC 5.na.v1; EMPAC SPERC 5.1.v1; ECCA SPERC 5.1a.v1
Processes, tasks, activities covered	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Section 2	Operational conditions and risk management measures
Product / article characteristics	
Physical form of product/article	Liquid
Volatility	Liquid, vapour pressure < 0.5 kPa at STP
Dustiness	n/a
Concentration in a preparation/product (wt.%)	<40
Other product/article characteristics	n/a
Section 2.1	Control of worker exposure
Operational conditions	
Amounts used	n/a
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)
Human factors not influenced by risk management	n/a
Other Operational Conditions affecting worker exposure	n/a
Risk Management Measures	
Contributing Scenarios	
Storage Bulk transfers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage Drum/batch transfers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage Drum/batch transfers Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Bulk product storage Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Preparation of material for application Continuous process (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Batch process Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Batch process Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Transfer from/pouring from containers	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Continuous process (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Batch process Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Batch process Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Treatment by dipping and pouring	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - air drying	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenance Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenance Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste collection and storage Transfer from/pouring from containers	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Laboratory activities	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste collection and storage Storage	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Spraying	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear a respirator conforming to EN140 with Type A filter or better.
Rolling, Brushing	Provide extract ventilation to points where emissions occur; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Batch process	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Calendering (including Banburys)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Drum and small package filling	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Section 2.2 Control of environmental exposure	
Operational conditions	
Amounts used (kg/d)	62
Frequency of use	Continuous release.
Duration of use (Emission Days/year)	365
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. Local marine water dilution factor: 100.
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): $1.70E-03$ Release fraction to wastewater from process (initial release prior to RMM): 0 Release fraction to soil from process (initial release prior to RMM): 0
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	Discharge to aquatic environment is restricted (see Section 4.2).
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Wet scrubber - for gas removal: 70%
Organisation measures to prevent/limit release from site	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Prevent discharge of undissolved substance to waste water or recover from wastewater.
Conditions and measures related to municipal sewage treatment plant	n/a
Conditions and measures related to external treatment of waste for disposal	n/a
Conditions and measures related to external recovery of waste	n/a

Other environmental measures	<p><i>Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases</i></p> <p><i>A leak prevention plan is needed to prevent low level continual releases</i></p> <p><i>Prevent leaks and prevent soil / water pollution caused by leaks</i></p> <p><i>Bund storage facilities to prevent soil and water pollution in the event of spillage</i></p>
Section 3	Exposure Estimation
3.1 Health	
<i>The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.</i>	
3.2 Environment	
<i>Used EUSES model</i>	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	
<p><i>Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.</i></p> <p><i>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</i></p>	
4.2 Environment	
<p><i>Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).</i></p>	

Section 1	Exposure Scenario: Worker
Title	<i>Use in Marine and Protective Coatings, professional</i>
Sector of Use	SU17; SU19
Process Category	PROC2; PROC3; PROC5; PROC7; PROC8a; PROC8b; PROC10; PROC11; PROC13; PROC19; PROC24
Product Category	PC9a
Article Category	n/a
Environmental Release Category	ERC5; ERC6a; ERC8c
Specific Environmental Release Category	CEPE SPERC 8c.1.v1 (CEPE A1); CEPE SPERC 8f.1.v1 (CEPE A2)
Processes, tasks, activities covered	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.
Section 2	Operational conditions and risk management measures
Product / article characteristics	
Physical form of product/article	Liquid
Volatility	Liquid, vapour pressure < 0.5 kPa at STP
Dustiness	n/a
Concentration in a preparation/product (wt.%)	<40
Other product/article characteristics	n/a
Section 2.1	Control of worker exposure
Operational conditions	
Amounts used	n/a
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)
Human factors not influenced by risk management	n/a
Other Operational Conditions affecting worker exposure	n/a
Risk Management Measures	
Contributing Scenarios	
Storage Bulk transfers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage Material transfers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage Material transfers Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Continuous process (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Preparation of material for application Batch process Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Batch process Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Transfer from/pouring from containers Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Transfer from/pouring from containers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Continuous process (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Batch process Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Batch process Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Transfer from/pouring from containers Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Transfer from/pouring from containers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Spraying Manual Outdoor	Ensure operation is undertaken outdoors ; Wear a full face respirator conforming to EN136 with Type A filter or better. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Spraying Manual Indoor	Provide extract ventilation to points where emissions occur; Wear a full face respirator conforming to EN136 with Type A filter or better. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Rolling, Brushing Manual Outdoor	Ensure operation is undertaken outdoors ; Wear a full face respirator conforming to EN136 with Type A filter or better. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Rolling, Brushing Manual Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Roller, spreader, flow application Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Spraying With potential for aerosol generation	Provide extract ventilation to points where emissions occur; Wear a full face respirator conforming to EN136 with Type A filter or better. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - air drying Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - air drying Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - force drying (50 - 100°C). Stoving (>100°C). UV/EB radiation curing	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenance Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenance Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste collection and storage Transfer from/pouring from containers	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Laboratory activities	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste collection and storage Storage	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Sanding, scraping, grinding Manual Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Sanding, scraping, grinding Manual Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
High (mechanical) energy work-up of substances bound in materials end/or articles Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
High (mechanical) energy work-up of substances bound in materials end/or articles Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Treatment by dipping and pouring	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Hand-mixing with intimate contact and only PPE available	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Section 2.2	Control of environmental exposure

Operational conditions	
Amounts used (kg/d)	30
Frequency of use	Continuous release.
Duration of use (Emission Days/year)	365
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. Local marine water dilution factor: 100.
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): 0 Release fraction to wastewater from process (initial release prior to RMM): 1.00E-02 Release fraction to soil from process (initial release prior to RMM): 5.00E-03
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	n/a
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	n/a
Organisation measures to prevent/limit release from site	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to waste water or recover from wastewater.
Conditions and measures related to municipal sewage treatment plant	n/a
Conditions and measures related to external treatment of waste for disposal	n/a
Conditions and measures related to external recovery of waste	n/a
Other environmental measures	Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases A leak prevention plan is needed to prevent low level continual releases Prevent leaks and prevent soil / water pollution caused by leaks Bund storage facilities to prevent soil and water pollution in the event of spillage
Section 3	Exposure Estimation
3.1 Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	
3.2 Environment	
Used EUSES model	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	

*Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.*

4.2 Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

Section 1	Exposure Scenario: Worker
Title	<i>Uses in Photocure Coatings, professional</i>
Sector of Use	SU17; SU19
Process Category	PROC2; PROC3; PROC5; PROC7; PROC8a; PROC8b; PROC10; PROC11; PROC13; PROC19; PROC24
Product Category	PC9a
Article Category	n/a
Environmental Release Category	ERC5; ERC6a; ERC8c
Specific Environmental Release Category	CEPE SPERC 8c.1.v1 (CEPE A1); CEPE SPERC 8f.1.v1 (CEPE A2)
Processes, tasks, activities covered	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.
Section 2	Operational conditions and risk management measures
Product / article characteristics	
Physical form of product/article	Liquid
Volatility	Liquid, vapour pressure < 0.5 kPa at STP
Dustiness	n/a
Concentration in a preparation/product (wt.%)	<40
Other product/article characteristics	n/a
Section 2.1	Control of worker exposure
Operational conditions	
Amounts used	n/a
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)
Human factors not influenced by risk management	n/a
Other Operational Conditions affecting worker exposure	n/a
Risk Management Measures	
Contributing Scenarios	
Storage Bulk transfers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage Material transfers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage Material transfers Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Continuous process (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Preparation of material for application Batch process Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Batch process Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Transfer from/pouring from containers Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Preparation of material for application Transfer from/pouring from containers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Continuous process (closed systems)	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Batch process Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Batch process Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Transfer from/pouring from containers Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Filling / preparation of equipment from drums or containers. Transfer from/pouring from containers Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Spraying Manual Outdoor	Ensure operation is undertaken outdoors ; Wear a full face respirator conforming to EN136 with Type A filter or better. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Spraying Manual Indoor	Provide extract ventilation to points where emissions occur; Wear a full face respirator conforming to EN136 with Type A filter or better. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Rolling, Brushing Manual Outdoor	Ensure operation is undertaken outdoors ; Wear a full face respirator conforming to EN136 with Type A filter or better. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Rolling, Brushing Manual Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Roller, spreader, flow application Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Spraying With potential for aerosol generation	Provide extract ventilation to points where emissions occur; Wear a full face respirator conforming to EN136 with Type A filter or better. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - air drying Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - air drying Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - force drying (50 - 100°C). Stoving (>100°C). UV/EB radiation curing	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenance Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenance Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste collection and storage Transfer from/pouring from containers	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Laboratory activities	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste collection and storage Storage	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Sanding, scraping, grinding Manual Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Sanding, scraping, grinding Manual Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
High (mechanical) energy work-up of substances bound in materials end/or articles Indoor	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
High (mechanical) energy work-up of substances bound in materials end/or articles Outdoor	Ensure operation is undertaken outdoors ; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Treatment by dipping and pouring	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Hand-mixing with intimate contact and only PPE available	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Section 2.2	Control of environmental exposure

Operational conditions	
Amounts used (kg/d)	6
Frequency of use	<i>Continuous release.</i>
Duration of use (Emission Days/year)	365
Environmental factors not influenced by risk management	<i>Local freshwater dilution factor: 10. Local marine water dilution factor: 100.</i>
Other Operational Conditions of use affecting environmental exposure	<i>Release fraction to air from process (initial release prior to RMM): 0 Release fraction to wastewater from process (initial release prior to RMM): 1.00E-02 Release fraction to soil from process (initial release prior to RMM): 5.00E-03</i>
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	<i>n/a</i>
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	<i>n/a</i>
Organisation measures to prevent/limit release from site	<i>Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to waste water or recover from wastewater.</i>
Conditions and measures related to municipal sewage treatment plant	<i>n/a</i>
Conditions and measures related to external treatment of waste for disposal	<i>n/a</i>
Conditions and measures related to external recovery of waste	<i>n/a</i>
Other environmental measures	<i>Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases A leak prevention plan is needed to prevent low level continual releases Prevent leaks and prevent soil / water pollution caused by leaks Bund storage facilities to prevent soil and water pollution in the event of spillage</i>
Section 3	Exposure Estimation
3.1 Health	
<i>The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.</i>	
3.2 Environment	
<i>Used EUSES model</i>	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	
<i>Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</i>	

4.2 Environment

<p><i>Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).</i></p>

Section 1	Exposure Scenario: Worker
Title	<i>Tooling and Casting, Industrial</i>
Sector of Use	SU12; SU16; SU17
Process Category	PROC2; PROC3; PROC5; PROC6; PROC7; PROC8a; PROC9; PROC10; PROC13; PROC14; PROC24
Product Category	PC1; PC19; PC32
Article Category	n/a
Environmental Release Category	ERC5; ERC6a
Specific Environmental Release Category	ESVOC SpERC 4.20.v1
Processes, tasks, activities covered	<i>Processing of formulated polymers including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance.</i>
Section 2	Operational conditions and risk management measures
Product / article characteristics	
Physical form of product/article	<i>Liquid</i>
Volatility	<i>Liquid, vapour pressure < 0.5 kPa at STP</i>
Dustiness	n/a
Concentration in a preparation/product (wt.%)	<30
Other product/article characteristics	n/a
Section 2.1	Control of worker exposure
Operational conditions	
Amounts used	n/a
Frequency and duration of use	<i>Covers daily exposures up to 8 hours (unless stated differently)</i>
Human factors not influenced by risk management	n/a
Other Operational Conditions affecting worker exposure	n/a
Risk Management Measures	
Contributing Scenarios	
Contributing Scenario	<i>Production or preparation of articles by tableting, compression, extrusion or pelletisation</i>
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>

Contributing Scenario	Operation and lubrication of high energy open equipment
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	General exposures (closed systems)
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	Mixing operations (open systems)
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	Material transfers
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	Drum and small package filling
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>

Contributing Scenario	<i>Roller, spreader, flow application</i>
Technical measures to prevent release	<i>n/a</i>
Technical measures to prevent dispersion	<i>Provide extract ventilation to points where emissions occur</i>
Organizational measures	<i>n/a</i>
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	<i>Production of articles by dipping and pouring</i>
Technical measures to prevent release	<i>n/a</i>
Technical measures to prevent dispersion	<i>n/a</i>
Organizational measures	<i>n/a</i>
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	<i>Calendering (including Banburys)</i>
Technical measures to prevent release	<i>n/a</i>
Technical measures to prevent dispersion	<i>n/a</i>
Organizational measures	<i>n/a</i>
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>
Contributing Scenario	<i>Spraying</i>
Technical measures to prevent release	<i>n/a</i>
Technical measures to prevent dispersion	<i>Provide extract ventilation to points where emissions occur</i>
Organizational measures	<i>n/a</i>
Personal Protection	<i>Wear a respirator conforming to EN140 with Type A/P2 filter or better Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>

Section 2.2 Control of environmental exposure	
Operational conditions	
Amounts used (kg/d)	50000
Frequency of use	Continuous release.
Duration of use (Emission Days/year)	300
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. Local marine water dilution factor: 100.
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): .002 Release fraction to wastewater from process (initial release prior to RMM): 3.00E-05 Release fraction to soil from process (initial release prior to RMM): 1.00E-04
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	n/a
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	n/a
Organisation measures to prevent/limit release from site	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Prevent discharge of undissolved substance to waste water or recover from wastewater.
Conditions and measures related to municipal sewage treatment plant	n/a
Conditions and measures related to external treatment of waste for disposal	n/a
Conditions and measures related to external recovery of waste	n/a
Other environmental measures	Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases A leak prevention plan is needed to prevent low level continual releases Prevent leaks and prevent soil / water pollution caused by leaks Bund storage facilities to prevent soil and water pollution in the event of spillage

Section 3	Exposure Estimation
3.1 Health	
<i>The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.</i>	
3.2 Environment	
<i>Used EUSES model</i>	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	
<i>Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</i>	
4.2 Environment	
<i>Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).</i>	

Section 1	Exposure Scenario: Worker
Title	<i>Tooling and Casting, Professional</i>
Sector of Use	SU12; SU16
Process Category	PROC5; PROC6; PROC10; PROC11; PROC13; PROC14; PROC19; PROC24
Product Category	PC1; PC9a; PC32; PC33
Article Category	n/a
Environmental Release Category	ERC5; ERC6a; ERC8c; ERC8f
Specific Environmental Release Category	ESVOC SpERC 4.20.v1
Processes, tasks, activities covered	<i>Processing of formulated polymers including material transfers, moulding and forming activities, material re-works and associated maintenance.</i>
Section 2	Operational conditions and risk management measures
Product / article characteristics	
Physical form of product/article	<i>Liquid</i>
Volatility	<i>Liquid, vapour pressure < 0.5 kPa at STP</i>
Dustiness	n/a
Concentration in a preparation/product (wt.%)	<30
Other product/article characteristics	n/a
Section 2.1	Control of worker exposure
Operational conditions	
Amounts used	n/a
Frequency and duration of use	<i>Covers daily exposures up to 8 hours (unless stated differently)</i>
Human factors not influenced by risk management	n/a
Other Operational Conditions affecting worker exposure	n/a
Risk Management Measures	
Contributing Scenarios	
Contributing Scenario	<i>Roller, spreader, flow application</i>
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	<i>Provide extract ventilation to points where emissions occur</i>
Organizational measures	n/a
Personal Protection	<i>Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.</i>

Contributing Scenario	Spraying
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	Provide extract ventilation to points where emissions occur
Organizational measures	n/a
Personal Protection	Wear a respirator conforming to EN140 with Type A/P2 filter or better Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Contributing Scenario	Production of articles by dipping and pouring
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Contributing Scenario	Production or preparation of articles by tableting, compression, extrusion or pelletisation
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Contributing Scenario	Mixing operations (open systems) Manual
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	Wear a respirator conforming to EN140 with Type A/P2 filter or better Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Contributing Scenario	Mixing operations (open systems)
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Contributing Scenario	Calendering (including Banburys)
Technical measures to prevent release	n/a
Technical measures to prevent dispersion	n/a
Organizational measures	n/a
Personal Protection	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Section 2.2 Control of environmental exposure	
Operational conditions	
Amounts used (kg/d)	55
Frequency of use	Continuous release.
Duration of use (Emission Days/year)	300
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. Local marine water dilution factor: 100.
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): .002 Release fraction to wastewater from process (initial release prior to RMM): 3.00E-05 Release fraction to soil from process (initial release prior to RMM): 1.00E-04
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	n/a
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	n/a
Organisation measures to prevent/limit release from site	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Prevent discharge of undissolved substance to waste water or recover from wastewater.
Conditions and measures related to municipal sewage treatment plant	n/a
Conditions and measures related to external treatment of waste for disposal	n/a
Conditions and measures related to external recovery of waste	n/a
Other environmental measures	Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases A leak prevention plan is needed to prevent low level continual releases Prevent leaks and prevent soil / water pollution caused by leaks Bund storage facilities to prevent soil and water pollution in the event of spillage
Section 3 Exposure Estimation	
3.1 Health	

<i>The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.</i>	
3.2 Environment	
<i>Used EUSES model</i>	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	
<p><i>Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.</i></p> <p><i>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</i></p>	
4.2 Environment	
<p><i>Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).</i></p>	

Section 1	Exposure Scenario: Consumer
Title	<i>Uses in Coatings, consumer</i>
Sector of Use	n/a
Process Category	n/a
Product Category	PC1; PC9a
Article Category	n/a
Environmental Release Category	ERC8c; ERC8f
Specific Environmental Release Category	FEICA SPERC 8c.1b.v1
Processes, tasks, activities covered	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.
Section 2	Operational conditions and risk management measures
Product characteristics	
Physical form of product	<i>Liquid</i>
Volatility	<i>Liquid, vapour pressure < 10 Pa at STP</i>
Dustiness	n/a
Concentration in a preparation/product (wt.%)	<35
Other product characteristics	n/a
Section 2.1	Control of consumer exposure
Operational conditions	
Amounts used	n/a
Frequency and duration of use	<i>Covers daily exposures up to 8 hours (unless stated differently)</i>
Human factors not influenced by risk management	n/a
Other Operational Conditions affecting consumer exposure	<i>Covers use in a one car garage (34 m3) under typical ventilation.</i>
Risk Management Measures	
Product category	<i>Coatings and paints, thinners, paint removers</i>

Product subcategory	Waterborne latex wall paint
Consumer measures	n/a
Section 2.2	Control of environmental exposure
Operational conditions	
Amounts used (kg/d)	2
Frequency of use	Continuous release.
Duration of use (Emission Days/year)	365
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. Local marine water dilution factor: 100.
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (initial release prior to RMM): 0 Release fraction to wastewater from process (initial release prior to RMM): .009 Release fraction to soil from process (initial release prior to RMM): 0
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	n/a
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	n/a
Organisation measures to prevent/limit release from site	n/a
Conditions and measures related to municipal sewage treatment plant	n/a
Conditions and measures related to external treatment of waste for disposal	n/a
Conditions and measures related to external recovery of waste	n/a
Other environmental measures	Dispose of waste or used sacks/containers according to local regulations. Prevent leaks and prevent soil / water pollution caused by leaks Retain drain downs in sealed storage pending disposal or for subsequent recycle
Section 3	Exposure Estimation
3.1 Health	
The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.	
3.2 Environment	
Used EUSES model	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.	

4.2 Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).	
Section 1	Exposure Scenario: Consumer
Title	Uses in Adhesives, Consumer
Sector of Use	n/a
Process Category	n/a
Product Category	PC1; PC9a
Article Category	n/a
Environmental Release Category	ERC8c; ERC8f
Specific Environmental Release Category	FEICA SPERC 8c.1b.v1
Processes, tasks, activities covered	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.
Section 2	Operational conditions and risk management measures
Product characteristics	
Physical form of product	Liquid
Volatility	Liquid, vapour pressure < 10 Pa at STP
Dustiness	n/a
Concentration in a preparation/product (wt.%)	<45
Other product characteristics	n/a
Section 2.1	Control of consumer exposure
Operational conditions	
Amounts used	n/a
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)
Human factors not influenced by risk management	n/a
Other Operational Conditions affecting consumer exposure	Covers exposure up to (hours/event): 10 min
Risk Management Measures	
Product category	Adhesives, Sealants
Product subcategory	Glues DIY-use (carpet glue, tile glue, wood parquet glue)
Consumer measures	n/a
Section 2.2	Control of environmental exposure
Operational conditions	
Amounts used (kg/d)	2
Frequency of use	Continuous release.
Duration of use (Emission Days/year)	365
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. Local marine water dilution factor: 100.

Other Operational Conditions of use affecting environmental exposure	<i>Release fraction to air from process (initial release prior to RMM): 0</i> <i>Release fraction to wastewater from process (initial release prior to RMM): .009</i> <i>Release fraction to soil from process (initial release prior to RMM): 0</i>
Risk Management Measures	
Technical conditions and measures at process level (source) to prevent release	<i>n/a</i>
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	<i>n/a</i>
Organisation measures to prevent/limit release from site	<i>n/a</i>
Conditions and measures related to municipal sewage treatment plant	<i>n/a</i>
Conditions and measures related to external treatment of waste for disposal	<i>n/a</i>
Conditions and measures related to external recovery of waste	<i>n/a</i>
Other environmental measures	<i>Dispose of waste or used sacks/containers according to local regulations.</i> <i>Prevent leaks and prevent soil / water pollution caused by leaks</i> <i>Retain drain downs in sealed storage pending disposal or for subsequent recycle</i>
Section 3	Exposure Estimation
3.1 Health	
<i>The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.</i>	
3.2 Environment	
<i>Used EUSES model</i>	
Section 4	Guidance to check compliance with the Exposure Scenario
4.1 Health	
<i>Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented</i> <i>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</i>	
4.2 Environment	
<i>Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).</i>	