BRENNTAG

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

SULPHAMIC ACID WITHOUT ANTI-CAKING TIMURAYA

Version 2.0 Print Date 18.07.2024

Revision date / valid from 08.02.2023

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

1.1. Product identifier

Trade name	:	SULPHAMIC ACID WITHOUT ANTI-CAKING TIMURAYA
Substance name	:	sulphamidic acid
Index-No.	:	016-026-00-0
CAS-No.	:	5329-14-6
EC-No.	:	226-218-8
EU REACH-Reg. No.	:	01-2119488633-28-xxxx

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

Use of the Substance/Mixture	:	Identified use: See table in front of appendix for a complete overview of identified uses.
Uses advised against	:	At this moment we have not identified any uses advised against
Remarks	:	Before referring to any Exposure Scenario attached to this Safety Data Sheet please check the grade of the product: the Exposure Scenarios presented are not related to all product grade

1.3. Details of the supplier of the safety data sheet

Company	:	Brenntag N.V. Nijverheidslaan 38 BE 8540 Deerlijk
Telephone	:	+32 (0)56 77 6944
Telefax	:	+32 (0)56 77 5711
E-mail address	:	info@brenntag.be
Responsible/issuing person	:	Master Data Administration
Company	:	Brenntag Nederland B.V. Donker Duyvisweg 44 NL 3316 BM Dordrecht
Telephone	:	+31 (0)78 65 44 944
Telefax	:	+31 (0)78 65 44 919
E-mail address	:	info@brenntag.nl
Responsible/issuing person	:	Master Data Administration

1.4. Emergency telephone number

Emergency telephone	:	Belgium: Antipoison Center - Brussels TEL: +32(0)70 245 245

number

Netherland: National Poisoning Information Center - Bilthoven
TEL: +31(0) 88 755 8000 (Only for the purpose of informing medical personnel in cases of acute intoxications)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	**Hazard category**	**Target Organs**	**Hazard statements**
Eye irritation	Category 2	---	H319
Skin irritation	Category 2	---	H315
Long-term (chronic) aquatic hazard	Category 3	---	H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

Most important adverse effects

Human Health : See section 11 for toxicological information.

Physical and chemical hazards : See section 9/10 for physicochemical information.

Potential environmental effects : See section 12 for environmental information.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard symbols :

Signal word : Warning

Hazard statements :

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention	:	P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
		P273	Avoid release to the environment.
Response	:	P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P337 + P313	If eye irritation persists: Get medical advice/ attention.
		P302 + P352	IF ON SKIN: Wash with plenty of water.
		P362 + P364	Take off contaminated clothing and wash it before reuse.
Disposal	:	P501	Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

- sulphamidic acid

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: No information available about endocrine disruption properties for environment.

Toxicological information: No information available about endocrine disruption properties for human health.

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)	
		Hazard class / Hazard category	Hazard statements
sulphamidic acid			
Index-No. : 016-026-00-0 CAS-No. : 5329-14-6 EC-No. : 226-218-8 EU REACH-Reg. No. : 01-2119488633-28-xxxx	<= 100	Eye Irrit.2 Skin Irrit.2 Aquatic Chronic3	H319 H315 H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	: Take off all contaminated clothing immediately. If symptoms call a physician.
If inhaled	: Remove to fresh air. If symptoms persist, call a physician.
In case of skin contact	: Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 5 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
If swallowed	: Wash out mouth with water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Protection of First Aid Responders	: First Aid responders should pay attention to self-protection and use the recommended protective clothing.

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

Symptoms	: irritant effects, See Section 11 for more detailed information on health effects and symptoms.
Effects	: See Section 11 for more detailed information on health effects and symptoms.

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

Treatment	: Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	The product itself does not burn. Water spray, foam, dry powder or CO2.
Unsuitable extinguishing media	:	High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	In case of fire hazardous decomposition products may be produced such as: Sulphur oxides, Ammonia, Nitrogen oxides (NOx)

5.3. Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.Wear personal protective equipment.
Further advice	:	Cool closed containers exposed to fire with water spray.Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Keep away unprotected persons. Ensure adequate ventilation. Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up	:	Use mechanical handling equipment. Keep in suitable, closed containers for disposal.
Further information	:	Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	:	Keep container tightly closed. Ensure adequate ventilation. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.
Hygiene measures	:	Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Store in original container. Suitable materials for containers: plastic materials; Unsuitable materials for containers: Aluminium
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Further information on storage conditions	:	Keep tightly closed in a dry and cool place.
Advice on common storage	:	Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

Specific use(s)	:	Identified use: See table in front of appendix for a complete overview of identified uses.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Occupational Exposure Limit Values

(Additional) Information	:	Contains no substances with occupational exposure limit values.

Contains no substances with occupational exposure limit values.

Component: sulphamidic acid CAS-No. 5329-14-6

Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL Workers, Long-term - systemic effects, Inhalation	:	70,5 mg/m3
DNEL Workers, Long-term - systemic effects, Skin contact	:	10 mg/kg bw/day
DNEL General population, Long-term - systemic effects, Inhalation	:	17,4 mg/m3
DNEL General population, Long-term - systemic effects, Skin contact	:	5 mg/kg bw/day
DNEL General population, Long-term - systemic effects, Ingestion	:	5 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Fresh water	:	1,8 mg/l
Marine water	:	0,18 mg/l
Sewage treatment plant (STP)	:	20 mg/l
Fresh water sediment	:	8,36 mg/kg d.w.
Marine sediment	:	0,84 mg/kg d.w.
Soil	:	5 mg/kg d.w.

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice	:	Required, if exposure limit is exceeded (e.g. OEL). Required if vapours or aerosol are released. Respiratory protection complying with EN 141. Recommended Filter type: Combination filter:B-P2

Hand protection

Advice	:	Protective gloves complying with EN 374. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Protective gloves should be replaced at first signs of wear.
Material	:	natural rubber
Break through time	:	>= 480 min
Glove thickness	:	0,5 mm
Material	:	polychloroprene
Break through time	:	>= 480 min
Glove thickness	:	0,5 mm
Material	:	Nitrile rubber
Break through time	:	>= 480 min
Glove thickness	:	0,35 mm
Material	:	butyl-rubber

Break through time	:	>= 480 min
Glove thickness	:	0,5 mm

Material	:	fluorocarbon rubber
Break through time	:	>= 480 min
Glove thickness	:	0,4 mm

Material	:	Polyvinylchloride
Break through time	:	>= 480 min
Glove thickness	:	0,5 mm

Eye protection

Advice	:	Tightly fitting safety goggles

Skin and body protection

Advice	:	Wear personal protective equipment.

Environmental exposure controls

General advice	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	:	powder
Physical state	:	solid
Colour	:	white
Odour	:	odourless
Odour Threshold	:	Not applicable
Melting point/range	:	205 °C
Boiling point/boiling range	:	not determined
Flammability (solid, gas)	:	does not ignite
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower	:	Not applicable

flammability limit		
Flash point	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	209 °C
Self-Accelerating decomposition temperature (SADT)	:	No data available
pH	:	1,2 (25 °C) Concentration: 10 g/l
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Solubility(ies)		
Water solubility	:	175 - 215 g/l soluble
Solubility in other solvents	:	No data available
Dissolution Rate	:	No data available
Partition coefficient: n-octanol/water	:	log Pow: 0,1 (20 °C) Method: OPPTS 830.7550
Dispersion Stability	:	No data available
Vapour pressure	:	Not applicable
Relative density	:	No data available
Density	:	2,15 g/cm3
Bulk density	:	No data available
Relative vapour density	:	No data available
Particle characteristics		
No data available		

9.2 Other information

Explosives	:	Product is not explosive.
Oxidizing properties	:	not oxidising
Flammability (liquids)	:	Not applicable

Evaporation rate	:	Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Advice : No decomposition if stored and applied as directed.

10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Conditions to avoid : Heat, flames and sparks.
Thermal decomposition : 209 °C

10.5. Incompatible materials

Materials to avoid : Oxidizing agents, alkalis, Metals, Chlorine, Bases, Nitric acid, nitrates, Halogenated compounds

10.6. Hazardous decomposition products

Hazardous decomposition products : Fire may cause evolution of: ammonia, Sulphur oxides, Nitrogen oxides (NOx)

SECTION 11: Toxicological information

11.1. Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008

Component:	sulphamidic acid	CAS-No. 5329-14-6
Acute toxicity		
Oral		
LD50	:	3160 mg/kg (Rat)
Inhalation		
No data available		
Dermal		
LD50	:	> 2000 mg/kg (Rat, male and female) (OECD Test Guideline 402)

Irritation

Skin

Result	:	Irritating to skin. (Rabbit) (OECD Test Guideline 404)

Eyes

Result	:	irritating (Rabbit) (OECD Test Guideline 405)

Sensitisation

Result	:	Did not cause sensitisation on laboratory animals.

CMR effects

CMR Properties

Carcinogenicity	:	No data available
Mutagenicity	:	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects
Teratogenicity	:	It is not considered teratogenic.
Reproductive toxicity	:	Animal testing did not show any effects on fertility.

Genotoxicity in vitro

Result	:	negative (In vitro gene mutation study in mammalian cells; CHO (Chinese Hamster Ovary) cells; with and without metabolic activation) (OECD Test Guideline 476) negative (Bacterial Reverse Mutation Test; Salmonella typhimurium; with and without metabolic activation) (OECD Test Guideline 471) negative (Bacterial Reverse Mutation Test; Escherichia coli; with and without metabolic activation) (OECD Test Guideline 471) negative (Micronucleus test; Human lymphocytes; with and without metabolic activation) (OECD Test Guideline 487)

Component:	**sulphamidic acid**	**CAS-No. 5329-14-6**

Genotoxicity in vivo

Result	:	negative (In vivo micronucleus test; Mouse, NMRI, male and female) (Oral;) (OECD Test Guideline 474)

Component:	**sulphamidic acid**	**CAS-No. 5329-14-6**

Specific Target Organ Toxicity

Single exposure

Remarks	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure

Remarks : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties

Aspiration hazard

No aspiration toxicity classification,

11.2. Information on other hazards

Data for the product

Endocrine disrupting properties

Assessment : No information available about endocrine disruption properties for human health.

Component: sulphamidic acid CAS-No. 5329-14-6

Endocrine disrupting properties

Assessment : No information available about endocrine disruption properties for human health.

SECTION 12: Ecological information

12.1. Toxicity

Component: sulphamidic acid CAS-No. 5329-14-6

Acute toxicity

Fish

LC50 : 70,3 mg/l (Pimephales promelas (fathead minnow), mortality; 96 h) (static test; OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

EC50 : 71,6 mg/l (Daphnia magna (Water flea), Immobilization; 48 h) (semi-static test; OECD Test Guideline 202)

algae

NOEC : 18 mg/l (Desmodesmus subspicatus (green algae); 72 h) (static test; End point: Growth rate; OECD Test Guideline 201)

ErC50		48 mg/l (Desmodesmus subspicatus (green algae); 72 h) (static test; End point: Growth rate; OECD Test Guideline 201)

Bacteria		
EC50	:	> 200 mg/l (activated sludge; 3 h) (static test; End point: Respiration inhibition; OECD Test Guideline 209)

12.2. Persistence and degradability

Component:	**sulphamidic acid**	**CAS-No. 5329-14-6**
Persistence and degradability		
Persistence		
Result	:	(Related to: Water) decomposition by hydrolysis.
Biodegradability		
Result	:	The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Component:	**sulphamidic acid**	**CAS-No. 5329-14-6**
Bioaccumulation		
Result	:	log Kow 0,1 (20 °C) (OPPTS 830.7550)
	:	Bioaccumulation is not expected.

12.4. Mobility in soil

Component:	**sulphamidic acid**	**CAS-No. 5329-14-6**
Mobility		
Water	:	The product is water soluble.
Air	:	Low volatility

12.5. Results of PBT and vPvB assessment

Data for the product		
Results of PBT and vPvB assessment		
Result	:	This substance/mixture contains no components considered to be

either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Component:	sulphamidic acid	CAS-No. 5329-14-6
Results of PBT and vPvB assessment		

Result : The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

12.6. Endocrine disrupting properties

Data for the product		
Endocrine disrupting potential	:	No information available about endocrine disruption properties for environment.

Component:	sulphamidic acid	CAS-No. 5329-14-6
Endocrine disrupting potential	:	No information available about endocrine disruption properties for environment.

12.7. Other adverse effects

Component:	sulphamidic acid	CAS-No. 5329-14-6
Additional ecological information		

Result : Do not flush into surface water or sanitary sewer system. Harmful effects to aquatic organisms due to pH-shift.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services. This product shall be disposed of or recovered in compliance with Directive 2008/98/EC on waste as lastly amended.

Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.

European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

14.1. UN number or ID number

2967

14.2. UN proper shipping name

ADR : SULPHAMIC ACID
RID : SULPHAMIC ACID
IMDG : SULPHAMIC ACID

14.3. Transport hazard class(es)

ADR-Class	: 8
(Labels; Classification Code; Hazard Identification Number; Tunnel restriction code)	8; C2; 80; (E)
RID-Class	: 8
(Labels; Classification Code; Hazard Identification Number)	8; C2; 80
IMDG-Class	: 8
(Labels; EmS)	8; F-A, S-B

14.4. Packaging group

ADR : III
RID : III
IMDG : III

14.5. Environmental hazards

Environmentally hazardous according to ADR	: no
Environmentally hazardous according to RID	: no
Marine Pollutant according to IMDG-Code	: no

14.6. Special precautions for user

Not applicable.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Component:	**sulphamidic acid**	**CAS-No. 5329-14-6**

EU. Chemicals Subject to PIC Procedure: : ; Not listed

Regulation 649/2012/EU on export and import of dangerous chemicals, as amended		
EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC)	:	Point Nos.: , 75; Listed
EU. Regulation No 1451/2007 [Biocides], Annex I, OJ (L 325)	:	EC Number: , 226-218-8; Listed
EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I	:	; The substance/mixture does not fall under this legislation.

Notification status
sulphamidic acid:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	226-218-8
ENCS (JP)	YES	(1)-402
IECSC	YES	
INSQ	YES	
ISHL (JP)	YES	(1)-402
KECI (KR)	YES	KE-32336
NZIOC	YES	HSR001549
ONT INV	YES	
PICCS (PH)	YES	
TCSI	YES	
TH INV	YES	55-1-04204
TH INV	YES	2811.19
TSCA	YES	
VN INVL	YES	

15.2. Chemical safety assessment

No data available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Full text of the Notes referred to under section 3.

Abbreviations and Acronyms

AU AIICL	Australia. Industrial Chemicals Act (AIIC) List
BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
DSL	Canada. Environmental Protection Act, Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ENCS (JP)	Japan. Kashin-Hou Law List
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IECSC	China. Inventory of Existing Chemical Substances
INSQ	Mexico. National Inventory of Chemical Substances
ISHL (JP)	Japan. Inventory of Industrial Safety & Health
KECI (KR)	Korea. Existing Chemicals Inventory
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level
NDSL	Canada. Environmental Protection Act. Non-Domestic Substances List
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
NZIOC	New Zealand. Inventory of Chemicals

OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
ONT INV	Canada. Ontario Inventory List
PBT	persistent, bioaccumulative and toxic
PHARM (JP)	Japan. Pharmacopoeia Listing
PICCS (PH)	Philippines. Inventory of Chemicals and Chemical Substances
PNEC	predicted no-effect concentration
REACH Auth. No.:	REACH Authorisation Number
REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
UK REACH Auth. No.:	UK REACH Authorisation Number
UK REACH AuthAppC. No.	UK REACH Authorisation Application Consultation Number
UK REACH-Reg.No	UK REACH Registration Number
STOT	specific target organ toxicity
SVHC	substance of very high concern
TCSI	Taiwan. Existing Chemicals Inventory
TH INV	Thailand. Existing Chemicals Inventory from FDA
TSCA	US. Toxic Substances Control Act

Further information

Key literature references and sources for data	:	Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
Methods used for product classification	:	The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
Hints for trainings	:	The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
Other information	:	The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.

No.	Short title	Main User Group (SU)	Sector of Use (SU)	Product Category (PC)	Process Category (PROC)	Environmental Release Category (ERC)	Article Category (AC)	Specified
1	Production of resins	3	8	32	4, 5, 8a, 8b, 15	1, 2, 6d	NA	ES11051
2	Use as plasticizer	22	NA	32	2, 8a, 8b, 10, 11, 16, 17, 20	8a, 8d, 9a, 9b	NA	ES11055
3	Formulation of pigments	3	NA	34	5	2, 4	NA	ES11053
4	Use as additive	3	NA	1	5, 8a, 8b	2, 6d	NA	ES11060
5	Formulation of cleaning agents	3	10	3, 8, 14, 15, 20, 23, 26, 31, 35, 38	3, 4, 5, 7, 8a, 8b, 9, 13, 15	2	NA	ES10914
6	Use in Cleaning Agents	22	2b	3, 8, 13, 15, 31, 35	1, 2, 4, 5, 8a, 8b, 9, 10, 11, 13, 16, 17, 19, 20	8a, 8b, 8d, 9a, 9b	NA	ES11041
7	Use in Cleaning Agents	3	5, 6b, 8, 15	8, 14, 20, 23, 26, 35, 38	2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 15, 16, 19, 25	4, 6b	NA	ES11043
8	Use in Cleaning Agents	21	20, 23	8, 35	NA	8a, 8b	NA	ES11045
9	Use in chemical synthesis	3	4	19	3	1	NA	ES11057
10	Use in food products	3	NA	35	1, 4, 7, 8a, 8b, 11, 13	4	NA	ES11049

1. Short title of Exposure Scenario 1: Production of resins		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products)	
Chemical product category	PC32: Polymer preparations and compounds	
Process categories	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 PROC15: Use as laboratory reagent	
Environmental Release Categories	ERC1: Manufacture of substances ERC2: Formulation of preparations ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers	
2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC6d		
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 Organizational measures to prevent/limit release from the site	Water	Do not empty into drains., Do not release wastewater directly into environment., Do not allow to enter undiluted resp. in large quantities into surface water or into drains., In general discharges should be carried out such that pH changes in receiving surface waters are minimised.
Conditions and measures related to sewage treatment plant	Type of Sewage Treatment Plant	Municipal sewage treatment plant
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
	Disposal methods	Packagings that cannot be cleaned are to be disposed of in the same manner as the product
2.2 Contributing scenario controlling worker exposure for: PROC4, PROC5, PROC8a, PROC8b, PROC15		
Product characteristics	Physical Form (at time of use)	solid, or, liquid
	Process Temperature	< 60 °C
Amount used	Amount used at workplace	780 ton(s)/year
Frequency and duration of use	Exposure duration per	< 8 h

	day	
Human factors not influenced by risk management	Breathing volume	10 m3/day
Other operational conditions affecting workers exposure	Room size	>= 20 m3
Technical conditions and measures to control dispersion from source towards the worker	Clean up contamination/spills as soon as they occur. Avoid splashing.	
Organisational measures to prevent /limit releases, dispersion and exposure	Understand dangerous properties of substance Ensure control measures are regularly inspected and maintained. Only properly trained and authorised personal shall handle the substance	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear protective gloves. Use suitable eye protection. If necessary: Wear suitable protective clothing. Do not breathe gas/vapour/aerosol. Wear respiratory protection	

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Workers

Used ECETOC TRA model.

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

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.
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Health

Additional good practice advice beyond the REACH Chemical Safety Assessment

Local exhaust ventilation is not required but good practice.

1. Short title of Exposure Scenario 2: Use as plasticizer		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
Chemical product category	PC32: Polymer preparations and compounds	
Process categories	PROC2: Use in closed, continuous process with occasional controlled exposure 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 PROC16: Using material as fuel sources, limited exposure to unburned product to be expected PROC17: Lubrication at high energy conditions and in partly open process PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems	
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems	
2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d, ERC9a, ERC9b		
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 Organizational measures to prevent/limit release from the site	Air	Use a process that does not generate atmospheric emission
	Water	Do not empty into drains., Do not release wastewater directly into environment.
	Soil	Recovery of sludge for agriculture or horticulture is forbidden
Conditions and measures related to external treatment of waste for disposal	Waste treatment	Waste shall be recovered or recycled if possible, External treatment and disposal of waste should comply with applicable local and/or national regulations.
	Disposal methods	Packagings that cannot be cleaned are to be disposed of in the same manner as the product
2.2 Contributing scenario controlling worker exposure for: PROC2, PROC8a, PROC8b, PROC10, PROC11, PROC16, PROC17, PROC20		
Product characteristics	Physical Form (at time of use)	liquid, or, solid
	Process Temperature	< 60 °C
Amount used	No information available.	
Human factors not influenced by risk management	Breathing volume	10 m3/day

Other operational conditions affecting workers exposure	Room size	>= 20 m3
Technical conditions and measures to control dispersion from source towards the worker	Clean up contamination/spills as soon as they occur. Avoid splashing.	
Organisational measures to prevent /limit releases, dispersion and exposure	Understand dangerous properties of substance Ensure control measures are regularly inspected and maintained. Only properly trained and authorised personal shall handle the substance	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear protective gloves. Use suitable eye protection. If necessary: Wear suitable protective clothing. Do not breathe gas/vapour/aerosol. Wear respiratory protection	

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Workers

Used ECETOC TRA model.

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

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.
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Health

Additional good practice advice beyond the REACH Chemical Safety Assessment

Local exhaust ventilation is not required but good practice.

1. Short title of Exposure Scenario 3: Formulation of pigments		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Chemical product category	PC34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids	
Process categories	PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)	
Environmental Release Categories	ERC2: Formulation of preparations ERC4: Industrial use of processing aids in processes and products, not becoming part of articles	
2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4		
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 Organizational measures to prevent/limit release from the site	Water	Do not empty into drains., Do not release wastewater directly into environment., Do not allow to enter undiluted resp. in large quantities into surface water or into drains., In general discharges should be carried out such that pH changes in receiving surface waters are minimised.
Conditions and measures related to sewage treatment plant	Type of Sewage Treatment Plant	Municipal sewage treatment plant
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
	Disposal methods	Packagings that cannot be cleaned are to be disposed of in the same manner as the product
2.2 Contributing scenario controlling worker exposure for: PROC5		
Product characteristics	Physical Form (at time of use)	liquid
	Process Temperature	< 60 °C
Amount used	Amount used at workplace	60 ton(s)/year
Frequency and duration of use	Exposure duration per day	> 4 h
Human factors not influenced by risk management	Breathing volume	10 m3/day
Other operational conditions affecting workers exposure	Room size	>= 20 m3
Technical conditions and measures to control dispersion from source towards the worker	Clean up contamination/spills as soon as they occur. Avoid splashing.	
Organisational measures to	Understand dangerous properties of substance	

prevent /limit releases, dispersion and exposure	Ensure control measures are regularly inspected and maintained. Only properly trained and authorised personal shall handle the substance
Conditions and measures related to personal protection, hygiene and health evaluation	Wear protective gloves. Use suitable eye protection. If necessary: Wear suitable protective clothing. Do not breathe gas/vapour/aerosol. Wear respiratory protection

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Workers

Used ECETOC TRA model.

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

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.
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Health

Additional good practice advice beyond the REACH Chemical Safety Assessment

Local exhaust ventilation is not required but good practice.

1. Short title of Exposure Scenario 4: Use as additive		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Chemical product category	PC1: Adhesives, sealants	
Process categories	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	
Environmental Release Categories	ERC2: Formulation of preparations ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers	
2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC6d		
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 Organizational measures to prevent/limit release from the site	Water	Do not empty into drains., Do not release wastewater directly into environment., Do not allow to enter undiluted resp. in large quantities into surface water or into drains., In general discharges should be carried out such that pH changes in receiving surface waters are minimised.
Conditions and measures related to sewage treatment plant	Type of Sewage Treatment Plant	Municipal sewage treatment plant
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
	Disposal methods	Packagings that cannot be cleaned are to be disposed of in the same manner as the product
2.2 Contributing scenario controlling worker exposure for: PROC5, PROC8a, PROC8b		
Product characteristics	Physical Form (at time of use)	liquid
	Process Temperature	< 60 °C
Amount used	Amount used at workplace	ton(s)/year
Frequency and duration of use	Exposure duration per day	> 4 h
Human factors not influenced by risk management	Breathing volume	10 m3/day
Other operational conditions affecting workers exposure	Room size	>= 20 m3
Technical conditions and	Clean up contamination/spills as soon as they occur.	

measures to control dispersion from source towards the worker	Avoid splashing.
Organisational measures to prevent /limit releases, dispersion and exposure	Understand dangerous properties of substance Ensure control measures are regularly inspected and maintained. Only properly trained and authorised personal shall handle the substance
Conditions and measures related to personal protection, hygiene and health evaluation	Wear protective gloves. Use suitable eye protection. If necessary: Wear suitable protective clothing. Do not breathe gas/vapour/aerosol. Wear respiratory protection

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Workers

Used ECETOC TRA model.

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

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.
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Health

Additional good practice advice beyond the REACH Chemical Safety Assessment

Local exhaust ventilation is not required but good practice.

1. Short title of Exposure Scenario 5: Formulation of cleaning agents	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Chemical product category	PC3: Air care products PC8: Biocidal products PC14: Metal surface treatment products, including galvanic and electroplating products PC15: Non-metal-surface treatment products PC20: Products such as ph-regulators, flocculants, precipitants, neutralization agents PC23: Leather tanning, dye, finishing, impregnation and care products PC26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids PC31: Polishes and wax blends PC35: Washing and cleaning products (including solvent based products) PC38: Welding and soldering products (with flux coatings or flux cores), flux products
Process categories	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) PROC13: Treatment of articles by dipping and pouring PROC15: Use as laboratory reagent
Environmental Release Categories	ERC2: Formulation of preparations

2.1 Contributing scenario controlling environmental exposure for: ERC2		
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 Organizational measures to prevent/limit release from the site	Water	Do not empty into drains., Do not release wastewater directly into environment., Do not allow to enter undiluted resp. in large quantities into surface water or into drains., In general discharges should be carried out such that pH changes in receiving surface waters are minimised.
Conditions and measures related	Type of Sewage	Municipal sewage treatment plant

to sewage treatment plant	Treatment Plant	
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
	Disposal methods	Packagings that cannot be cleaned are to be disposed of in the same manner as the product

2.2 Contributing scenario controlling worker exposure for: PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC13, PROC15,

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid, or, solid
	Process Temperature	< 60 °C
Amount used	Amount used at workplace	1000 ton(s)/year
	The used parameters represent a worst case scenario	
Frequency and duration of use	Exposure duration per day	> 4 h
Human factors not influenced by risk management	Breathing volume	10 m3/day
Other operational conditions affecting workers exposure	Room size	>= 20 m3
Technical conditions and measures to control dispersion from source towards the worker	Clean up contamination/spills as soon as they occur.	
Organisational measures to prevent /limit releases, dispersion and exposure	Understand dangerous properties of substance Ensure control measures are regularly inspected and maintained. Only properly trained and authorised personal shall handle the substance	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear protective gloves. Use suitable eye protection. If necessary: Wear suitable protective clothing. Do not breathe gas/vapour/aerosol. Wear respiratory protection	

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Workers

Used ECETOC TRA model.

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

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.
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Health

1. Short title of Exposure Scenario 6: Use in Cleaning Agents	
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	SU2b: Offshore industries
Chemical product category	PC3: Air care products PC8: Biocidal products PC13: Fuels PC15: Non-metal-surface treatment products PC31: Polishes and wax blends PC35: Washing and cleaning products (including solvent based products)
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure 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) PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC16: Using material as fuel sources, limited exposure to unburned product to be expected PROC17: Lubrication at high energy conditions and in partly open process PROC19: Hand-mixing with intimate contact and only PPE available PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8b: Wide dispersive indoor use of reactive substances in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8b, ERC8d, ERC9a, ERC9b		
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 Organizational measures to	Water	Do not empty into drains., Do not release wastewater directly into environment.

prevent/limit release from the site		
Conditions and measures related to external treatment of waste for disposal	Waste treatment	Waste shall be recovered or recycled if possible, External treatment and disposal of waste should comply with applicable local and/or national regulations.
	Disposal methods	Packagings that cannot be cleaned are to be disposed of in the same manner as the product

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC16, PROC17, PROC19, PROC20

Product characteristics	Concentration of the Substance in Mixture/Article	Concentration of substance in product : 3% - 15%
	Physical Form (at time of use)	liquid
	Process Temperature	< 60 °C
Amount used	Amount used at workplace	7 - 1000 ton(s)/year
Frequency and duration of use	Exposure duration per day	15 - 60 min
Human factors not influenced by risk management	Breathing volume	10 m3/day
Other operational conditions affecting workers exposure	Room size	>= 20 m3
Technical conditions and measures to control dispersion from source towards the worker	Clean up contamination/spills as soon as they occur. Avoid splashing.	
Organisational measures to prevent /limit releases, dispersion and exposure	Understand dangerous properties of substance Ensure control measures are regularly inspected and maintained. Only properly trained and authorised personal shall handle the substance	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear protective gloves. Use suitable eye protection. If necessary: Wear suitable protective clothing. Do not breathe gas/vapour/aerosol. Wear respiratory protection	

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Workers

Used ECETOC TRA model.

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

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.
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Health

Additional good practice advice beyond the REACH Chemical Safety Assessment

Local exhaust ventilation is not required but good practice.

1. Short title of Exposure Scenario 7: Use in Cleaning Agents	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU5: Manufacture of textiles, leather, fur SU6b: Manufacture of pulp, paper and paper products SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU15: Manufacture of fabricated metal products, except machinery and equipment
Chemical product category	PC8: Biocidal products PC14: Metal surface treatment products, including galvanic and electroplating products PC20: Products such as ph-regulators, flocculants, precipitants, neutralization agents PC23: Leather tanning, dye, finishing, impregnation and care products PC26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids PC35: Washing and cleaning products (including solvent based products) PC38: Welding and soldering products (with flux coatings or flux cores), flux products
Process categories	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 PROC15: Use as laboratory reagent PROC16: Using material as fuel sources, limited exposure to unburned product to be expected PROC19: Hand-mixing with intimate contact and only PPE available PROC25: Other hot work operations with metals
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC6b: Industrial use of reactive processing aids

2.1 Contributing scenario controlling environmental exposure for: ERC4, ERC6b		
Technical conditions and measures at process level (source) to prevent release	Water	Do not empty into drains., Do not release wastewater directly into environment., Do not allow to enter undiluted resp. in large quantities into

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site		surface water or into drains., In general discharges should be carried out such that pH changes in receiving surface waters are minimised.
Conditions and measures related to sewage treatment plant	Type of Sewage Treatment Plant	Municipal sewage treatment plant
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
	Disposal methods	Packagings that cannot be cleaned are to be disposed of in the same manner as the product
2.2 Contributing scenario controlling worker exposure for: PROC2, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC15, PROC16, PROC19, PROC25		
Product characteristics	Concentration of the Substance in Mixture/Article	Concentration of substance in product : 3% - 15%
	Physical Form (at time of use)	liquid
	Process Temperature	< 60 °C
Amount used	Amount used at workplace	100 - 750 ton(s)/year
Frequency and duration of use	Exposure duration per day	15 - 75 min
Human factors not influenced by risk management	Breathing volume	10 m3/day
Other operational conditions affecting workers exposure	Room size	>= 20 m3
Technical conditions and measures to control dispersion from source towards the worker	Clean up contamination/spills as soon as they occur. Avoid splashing.	
Organisational measures to prevent /limit releases, dispersion and exposure	Understand dangerous properties of substance Ensure control measures are regularly inspected and maintained. Only properly trained and authorised personal shall handle the substance	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear protective gloves. Use suitable eye protection. If necessary: Wear suitable protective clothing. Do not breathe gas/vapour/aerosol. Wear respiratory protection	
3. Exposure estimation and reference to its source		
Environment		

No exposure assessment presented for the environment.

Workers

Used ECETOC TRA model.

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

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.
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Health

Additional good practice advice beyond the REACH Chemical Safety Assessment

Local exhaust ventilation is not required but good practice.

1. Short title of Exposure Scenario 8: Use in Cleaning Agents		
Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)	
Sectors of end-use	SU20: Health services SU23: Electricity, steam, gas water supply and sewage treatment	
Chemical product category	PC8: Biocidal products PC35: Washing and cleaning products (including solvent based products)	
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8b: Wide dispersive indoor use of reactive substances in open systems	
2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8b		
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
	Disposal methods	Packagings that cannot be cleaned are to be disposed of in the same manner as the product
2.2 Contributing scenario controlling consumer exposure for: PC8, PC35		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 8%
	Physical Form (at time of use)	liquid
Amount used	Amount used per year	100 - 1000 tons/year
Frequency and duration of use	Frequency of use	1 events/week
Human factors not influenced by risk management	Breathing rate	1,37 m³/h
	Exposed skin areas	Covers skin contact area: 1000 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Assumes activities are at ambient temperature., Covers use under typical household ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	Ensure that direct skin contact is avoided. Avoid using without gloves.

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Consumers

Used ECETOC TRA model.

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

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.
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Health

1. Short title of Exposure Scenario 9: Use in chemical synthesis		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Sectors of end-use	SU4: Manufacture of food products	
Chemical product category	PC19: Intermediate	
Process categories	PROC3: Use in closed batch process (synthesis or formulation)	
Environmental Release Categories	ERC1: Manufacture of substances	
Activity	Covers a technical use, not intended to be used in food, feedingstuffs or human and vetenarian medicinal products, as specified in Art.2 (5)(6) of the REACH regulation	
2.1 Contributing scenario controlling environmental exposure for: ERC1		
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 Organizational measures to prevent/limit release from the site	Air	Use a process that does not generate atmospheric emission
	Water	Do not empty into drains., Do not release wastewater directly into environment., Do not allow to enter undiluted resp. in large quantities into surface water or into drains.
	Soil	Recovery of sludge for agriculture or horticulture is forbidden
Conditions and measures related to external treatment of waste for disposal	Waste treatment	Waste shall be recovered or recycled if possible, External treatment and disposal of waste should comply with applicable local and/or national regulations.
	Disposal methods	Packagings that cannot be cleaned are to be disposed of in the same manner as the product
2.2 Contributing scenario controlling worker exposure for: PROC3		
Product characteristics	Physical Form (at time of use)	solid
	Process Temperature	< 60 °C
Amount used	Amount used at workplace	1000 ton(s)/year
Human factors not influenced by risk management	Breathing volume	10 m3/day
Other operational conditions affecting workers exposure	Room size	>= 20 m3
Technical conditions and measures to control dispersion from source towards the worker	Clean up contamination/spills as soon as they occur. Avoid splashing.	
Organisational measures to prevent /limit releases, dispersion	Understand dangerous properties of substance	

and exposure	Ensure control measures are regularly inspected and maintained. Only properly trained and authorised personal shall handle the substance
Conditions and measures related to personal protection, hygiene and health evaluation	Wear protective gloves. Use suitable eye protection. If necessary: Wear suitable protective clothing. Do not breathe gas/vapour/aerosol. Wear respiratory protection

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Workers

Used ECETOC TRA model.

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

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.
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Health

Additional good practice advice beyond the REACH Chemical Safety Assessment

Local exhaust ventilation is not required but good practice.

1. Short title of Exposure Scenario 10: Use in food products		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Chemical product category	PC35: Washing and cleaning products (including solvent based products)	
Process categories	PROC1: Use in closed process, no likelihood of exposure 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 PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring	
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles	
Activity	Covers a technical use, not intended to be used in food, feedingstuffs or human and vetenarian medicinal products, as specified in Art.2 (5)(6) of the REACH regulation	
2.1 Contributing scenario controlling environmental exposure for: ERC4		
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 Organizational measures to prevent/limit release from the site	Water	Do not empty into drains., Do not release wastewater directly into environment., Do not allow to enter undiluted resp. in large quantities into surface water or into drains., In general discharges should be carried out such that pH changes in receiving surface waters are minimised.
Conditions and measures related to sewage treatment plant	Type of Sewage Treatment Plant	Municipal sewage treatment plant
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
	Disposal methods	Packagings that cannot be cleaned are to be disposed of in the same manner as the product
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC4, PROC7, PROC8a, PROC8b, PROC11, PROC13		
Product characteristics	Physical Form (at time of use)	liquid
	Process Temperature	< 60 °C
Amount used	Amount used at workplace	305 ton(s)/year

Frequency and duration of use	Exposure duration per day	< 8 h
Human factors not influenced by risk management	Breathing volume	10 m3/day
Other operational conditions affecting workers exposure	Room size	>= 20 m3
Technical conditions and measures to control dispersion from source towards the worker	Clean up contamination/spills as soon as they occur. Avoid splashing.	
Organisational measures to prevent /limit releases, dispersion and exposure	Understand dangerous properties of substance Ensure control measures are regularly inspected and maintained. Only properly trained and authorised personal shall handle the substance	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear protective gloves. Use suitable eye protection. If necessary: Wear suitable protective clothing. Do not breathe gas/vapour/aerosol. Wear respiratory protection	

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Workers

Used ECETOC TRA model.

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

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.
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Health

Additional good practice advice beyond the REACH Chemical Safety Assessment

Local exhaust ventilation is not required but good practice.

DISTRIBUTOR COMPANY INFORMATION			
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