DISPERBYK-110

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

1.1 Product identifier

Trade name : DISPERBYK-110

Product code : 000000000000104549

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

Use of the Substance/Mixture : Wetting & Dispersing Additive

1.3 Details of the supplier of the safety data sheet

Company : BYK-Chemie GmbH
Abelstrasse 45
46483 Wesel
Telephone : +49 281 670-0
Telefax : +49 281 65735

Information : Regulatory Affairs
Telephone : +49 281 670-23532
Telefax : +49 281 670-23533
E-mail address : GHS.BYK@altana.com

1.4 Emergency telephone number

+44 1235 239670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Skin corrosion, Sub-category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :

H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Hazardous components which must be listed on the label:

- 108-65-6 2-methoxy-1-methylethyl acetate
- 64742-95-6 Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified
- 7664-38-2 phosphoric 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: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : solution of polymeric phosphoric acid ester

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Phosphoric acid polyester	-	Eye Irrit. 2; H319	>= 50 - <= 100
2-methoxy-1-methylethyl acetate	108-65-6 203-603-9 01-2119475791-29	STOT SE 3; H336 Flam. Liq. 3; H226	>= 20 - < 25
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified	64742-95-6 01-2119455851-35	STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system) Aquatic Chronic 2; H411 Flam. Liq. 3; H226 Asp. Tox. 1; H304	>= 20 - < 25
phosphoric acid	7664-38-2 231-633-2 01-2119485924-24	Skin Corr. 1B; H314 Eye Dam. 1; H318 ——————— specific concentration limit Skin Corr. 1B; H314 >= 25 % Skin Irrit. 2; H315 10 - < 25 % Eye Irrit. 2; H319 10 - < 25 % Skin Corr. 1B; H314 >= 25 % Skin Irrit. 2; H315 10 - < 25 % Eye Irrit. 2; H319 10 - < 25 %	>= 1 - < 3

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	:	Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
In case of skin contact	:	Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	No information available.
Risks	:	Causes serious eye damage. May cause respiratory irritation. May cause drowsiness or dizziness. Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides Sulphur oxides Oxides of phosphorus

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Neutralize with chalk, alkali solution or ammonia.

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

For disposal considerations see section 13., For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Advice on protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards. Store in original container.
Further information on storage stability	:	No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s)	:	No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
2-methoxy-1-methylethyl acetate	108-65-6	TWA	50 ppm 275 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 550 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	50 ppm 274 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 548 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
phosphoric acid	7664-38-2	TWA	1 mg/m3	2000/39/EC
	Further information: Indicative			
		STEL	2 mg/m3	2000/39/EC
	Further information: Indicative			
		TWA	1 mg/m3	GB EH40
		STEL	2 mg/m3	GB EH40

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
2-methoxy-1-methylethyl acetate	Workers	Skin contact	Long-term systemic effects	796 mg/kg
	Workers	Inhalation	Long-term systemic effects	275 mg/m3
	Consumers	Skin contact	Long-term systemic effects	320 mg/kg
	Consumers	Inhalation	Long-term systemic effects	33 mg/m3
	Consumers	Ingestion	Long-term systemic effects	36 mg/kg
	Workers	Inhalation	Acute local effects	550 mg/m3
	Consumers	Inhalation	Acute local effects	33 mg/m3
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified	Workers	Skin contact	Long-term exposure, Systemic effects	25 mg/kg
	Workers	Inhalation	Long-term exposure, Systemic effects	150 mg/m3
	Consumers	Skin contact	Long-term exposure, Systemic effects	11 mg/kg

	Consumers	Inhalation	Long-term exposure, Systemic effects	32 mg/m3
	Consumers	Ingestion	Long-term exposure, Systemic effects	11 mg/kg
phosphoric acid	Workers	Inhalation	Long-term local effects	1 mg/m3
	Workers	Inhalation	Acute local effects	2 mg/m3
	Consumers	Inhalation	Long-term local effects	0,73 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
2-methoxy-1-methylethyl acetate	Fresh water	0,635 mg/l
	Marine water	0,0635 mg/l
	Intermittent releases	6,35 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	3,29 mg/kg
	Marine sediment	0,329 mg/kg
	Soil	0,29 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Hand protection
Material : butyl-rubber
Break through time : > 480 min
Glove thickness : 0,7 mm

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Environmental exposure controls

General advice : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour	:	light yellow
Odour	:	odourless
Odour Threshold	:	No data available
Melting point/freezing point	:	< 0 °C Method: derived
Initial boiling point and boiling range	:	146,00 °C Method: derived
Upper explosion limit / Upper flammability limit	:	10,80 %(V)
Lower explosion limit / Lower flammability limit	:	1,00 %(V)
Flash point	:	42,00 °C Method: 48 (Abel-Pensky) DIN 51755
Auto-ignition temperature	:	> 200 °C Method: DIN 51794
Decomposition temperature	:	No data available
pH	:	3,1 (20 °C) Concentration: 1 % Method: DIN 19268 (1% in water)
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20,000 mm2/s (20,00 °C) 27,000 mm2/s (40,00 °C)
Solubility(ies)		
Water solubility	:	immiscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	5 hPa (20,00 °C) Method: derived
Relative density	:	No data available

Density	:	1,0250 g/cm3 (20,00 °C) Method: 4 (20°C oscillating U-tube)
Bulk density	:	Not applicable
Relative vapour density	:	No data available

9.2 Other information

Flammability (liquids)	:	Sustains combustion
Evaporation rate	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Gives off hydrogen by reaction with metals. No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid	:	Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid	:	Strong oxidizing agents Metals

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Not classified due to lack of data.

Product:

Acute oral toxicity	:	Remarks: No data available

Components:

Phosphoric acid polyester:

Acute oral toxicity	:	LD50 Oral (Rat, male and female): > 5.000 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

2-methoxy-1-methylethyl acetate:

Acute oral toxicity	:	LD50 (Rat, female): > 5.000 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	LD50 (Rabbit, male and female): > 3.160 mg/kg Method: OECD Test Guideline 402

phosphoric acid:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Skin corrosion/irritation

Causes severe burns.

Product:

Species	:	EPISKIN human epidermis skin constructs
Assessment	:	Causes burns.
Method	:	OECD Test Guideline 431
Result	:	Causes burns.
GLP	:	yes
Remarks	:	Extremely corrosive and destructive to tissue.

Components:

Phosphoric acid polyester:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

2-methoxy-1-methylethyl acetate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

phosphoric acid:

Remarks	:	No data available

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks	:	May cause irreversible eye damage.

Components:

Phosphoric acid polyester:

Species	:	Rabbit
Assessment	:	Irritating to eyes.
Result	:	Eye irritation
GLP	:	yes

2-methoxy-1-methylethyl acetate:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation
GLP	:	yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation
GLP	:	yes

phosphoric acid:

Remarks : No data available

Respiratory or skin sensitisation

Skin sensitisation

Not classified due to lack of data.

Respiratory sensitisation

Not classified due to lack of data.

Product:

Remarks : No data available

Components:

2-methoxy-1-methylethyl acetate:

Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
GLP	:	yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Test Type	:	Maximisation Test
Exposure routes	:	Dermal
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified due to lack of data.

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Components:

Phosphoric acid polyester:

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse (male and female)
Method: Mutagenicity (micronucleus test)
Result: negative
GLP: yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Germ cell mutagenicity-Assessment	:	Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Carcinogenicity

Not classified due to lack of data.

Product:

Remarks	:	No data available

Components:

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Carcinogenicity - Assessment	:	Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Reproductive toxicity

Not classified due to lack of data.

Product:

Effects on fertility	:	Remarks: No data available
Effects on foetal development	:	Remarks: No data available

STOT - single exposure

May cause respiratory irritation.
May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified due to lack of data.

Product:

Remarks	:	No data available

Repeated dose toxicity

Product:

Remarks	:	No data available

Components:

Phosphoric acid polyester:

Species	:	Rat, male and female
LOAEL	:	4.000 mg/kg
Application Route	:	Oral
Method	:	OECD Test Guideline 407
GLP	:	yes

Aspiration toxicity
Not classified due to lack of data.

Product:
No data available

Components:

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

11.2 Information on other hazards

Endocrine disrupting properties
Not classified due to lack of data.

Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

Product:

Remarks	:	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish	:	Remarks: No data available

Components:

Phosphoric acid polyester:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 770 mg/l Exposure time: 48 h Test Type: static test Method: DIN 38412 GLP: no

Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 130 mg/l Exposure time: 72 h GLP: yes
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): > 500 mg/l Exposure time: 16 h Test Type: Cell multiplication inhibition test Method: DIN 38412, L 8 GLP: no

2-methoxy-1-methylethyl acetate:

Toxicity to fish	:	LC50 (Fish): 100 - 180 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: no
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 201 GLP: no

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Toxicity to fish	:	LL50 (Fish): 9,2 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3,2 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata): 2,6 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes

phosphoric acid:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Components:

Phosphoric acid polyester:

Biodegradability : Result: Not readily biodegradable.
Exposure time: 28 d
Method: OECD Test Guideline 301
GLP: no

2-methoxy-1-methylethyl acetate:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F
GLP: yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

2-methoxy-1-methylethyl acetate:

Partition coefficient: n-octanol/water : log Pow: 1,2 (20 °C)
pH: 6,8
Method: OECD Test Guideline 117
GLP: yes

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : 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.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 2920

ADR : UN 2920

RID : UN 2920

IMDG : UN 2920

IATA : UN 2920

14.2 UN proper shipping name

ADN : CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Orthophosphoric acid, 1-Methoxy-2-propanol acetate)

ADR : CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Orthophosphoric acid, 1-Methoxy-2-propanol acetate)

RID	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Orthophosphoric acid, 1-Methoxy-2-propanol acetate)
IMDG	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Orthophosphoric acid, 1-Methoxy-2-propanol acetate)
IATA	:	Corrosive liquid, flammable, n.o.s. (Orthophosphoric acid, 1-Methoxy-2-propanol acetate)

14.3 Transport hazard class(es)

ADN	:	8 (3)
ADR	:	8 (3)
RID	:	8 (3)
IMDG	:	8 (3)
IATA	:	8 (3)

14.4 Packing group

ADN

Packing group	:	II
Classification Code	:	CF1
Hazard Identification Number	:	83
Labels	:	8 (3)

ADR

Packing group	:	II
Classification Code	:	CF1
Hazard Identification Number	:	83
Labels	:	8 (3)
Tunnel restriction code	:	D/E

RID

Packing group	:	II
Classification Code	:	CF1
Hazard Identification Number	:	83
Labels	:	8 (3)

IMDG

Packing group	:	II
Labels	:	8 (3)
EmS Code	:	F-E, S-C
Remarks	:	IMDG Code segregation group 1 - Acids

IATA (Cargo)

Packing instruction (cargo aircraft)	:	855
Packing group	:	II
Labels	:	Corrosives, Flammable Liquids

IATA (Passenger)

Packing instruction (passenger aircraft)	:	851
Packing instruction (LQ)	:	Y840

Packing group	:	II
Labels	:	Corrosives, Flammable Liquids

14.5 Environmental hazards

ADN
Environmentally hazardous : no

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries must be considered:: Number on list 3 Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P5c	FLAMMABLE LIQUIDS

15.2 Chemical safety assessment

For further information see eSDS.

SECTION 16: Other information

Items where relevant changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Full text of H-Statements

H226	:	Flammable liquid and vapour.
H304	:	May be fatal if swallowed and enters airways.
H314	:	Causes severe skin burns and eye damage.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H411	:	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Skin Corr.	:	Skin corrosion
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; BGW - Biological Limit Values; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); LSPN - List of Hazardous Notified Substances (Chile); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration;

NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 3	H226	Based on product data or assessment
Skin Corr. 1B	H314	Based on product data or assessment
Eye Dam. 1	H318	Based on product data or assessment
STOT SE 3	H336	Calculation method
STOT SE 3	H335	Calculation method
Aquatic Chronic 3	H412	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN

Annex: Exposure Scenarios

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ES 1: Formulation & (re)packing of substances and mixtures; Industrial uses (SU3).

1.1. Title section

Exposure Scenario name	:	Formulation & (re)packing of substances and mixtures
Structured Short Title	:	Formulation & (re)packing of substances and mixtures; Industrial uses (SU3).

Environment		
CS 1	**Formulation into mixture, Use of non-reactive processing aid at industrial site (no inclusion into or onto article)**	ERC2, ERC4
Worker		
CS 2	**Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions**	PROC1
CS 3	**Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions**	PROC2
CS 4	**Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, Chemical production where opportunity for exposure arises, Mixing or blending in batch processes, Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, Transfer of substance or mixture (charging/discharging) at dedicated facilities, Transfer of substance or mixture into small containers (dedicated filling line, including weighing), Tabletting, compression, extrusion, pelettisation, granulation, Use as laboratory reagent**	PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15

1.2. Conditions of use affecting exposure

1.2.1. Control of environmental exposure: Formulation into mixture (ERC2) / Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	50 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		

Annual amount per site	:	730000 kg
Release type	:	Continuous release
Emission days	:	100
Conditions and measures related to sewage treatment plant		
STP type	:	Municipal sewage treatment plant
STP sludge treatment	:	No application of sewage sludge to soil Sewage sludge should be incinerated, contained or reclaimed.
Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	External treatment and disposal of waste should comply with applicable local and/or national regulations. External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure		
Local freshwater dilution factor	:	10
Local marine water dilution factor	:	100

1.2.2. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Technical and organisational conditions and measures		
Store substance within a closed system.		
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Assumes a good basic standard of occupational hygiene is implemented

1.2.3. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Technical and organisational conditions and measures		
Store substance within a closed system.		
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		
Assumes a good basic standard of occupational hygiene is implemented		

1.2.4. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) / Chemical production where opportunity for exposure arises (PROC4) / Mixing or blending in batch processes (PROC5) / Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a) / Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b) / Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9) / Tabletting, compression, extrusion, pelettisation, granulation (PROC14) / Use as laboratory reagent (PROC15)

Product (article) characteristics
Covers concentrations up to 100 %

Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		
Assumes a good basic standard of occupational hygiene is implemented		

1.3. Exposure estimation and reference to its source

1.3.1. Environmental release and exposure: Formulation into mixture (ERC2) / Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Release route	Release rate	Release estimation method
Air	10 kg/day	
Waste	0,2 kg/day	
Soil	0,1 kg/day	

1.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
For scaling see
http://www.ecetoc.org/tra

Further details on scaling and control technologies are provided in SPERC factsheet.

ES 2: Use in coatings; Industrial uses (SU3).

2.1. Title section

Exposure Scenario name	:	Use in coatings
Structured Short Title	:	Use in coatings; Industrial uses (SU3).

Environment		
CS 1	**Use of non-reactive processing aid at industrial site (no inclusion into or onto article)**	ERC4
Worker		
CS 2	**Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions**	PROC1
CS 3	**Industrial spraying**	PROC7
CS 4	**Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, Chemical production where opportunity for exposure arises, Mixing or blending in batch processes, Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, Transfer of substance or mixture (charging/discharging) at dedicated facilities, Transfer of substance or mixture into small containers (dedicated filling line, including weighing), Roller application or brushing, Treatment of articles by dipping and pouring, Tabletting, compression, extrusion, pelettisation, granulation, Use as laboratory reagent**	PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

2.2. Conditions of use affecting exposure

2.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		

Release type	:	Continuous release
Emission days	:	300
Conditions and measures related to sewage treatment plant		
STP type	:	Municipal Sewage Treatment Plant
STP sludge treatment	:	Sewage sludge should be incinerated, contained or reclaimed.
Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Waste treatment	:	External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure		
Local freshwater dilution factor	:	10
Local marine water dilution factor	:	100

2.2.2. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Technical and organisational conditions and measures		
Store substance within a closed system.		
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		

Assumes a good basic standard of occupational hygiene is implemented

2.2.3. Control of worker exposure: Industrial spraying (PROC7)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Conditions and measures related to personal protection, hygiene and health evaluation		
Wear a respirator conforming to EN140.		
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.

2.2.4. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) / Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) / Chemical production where opportunity for exposure arises (PROC4) / Mixing or blending in batch processes (PROC5) / Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a) / Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b) / Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9) / Roller application or brushing (PROC10) / Treatment of articles by dipping and pouring (PROC13) / Tabletting, compression, extrusion, pelettisation, granulation (PROC14) / Use as laboratory reagent (PROC15)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C

Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.

2.3. Exposure estimation and reference to its source

2.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Release route	Release rate	Release estimation method
Air	980 kg/day	
Waste	0,7 kg/day	
Soil	0 kg/day	

2.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
For scaling see
http://www.ecetoc.org/tra

Further details on scaling and control technologies are provided in SPERC factsheet.

ES 3: Use in coatings; Professional uses (SU22).

3.1. Title section

Exposure Scenario name	:	Use in coatings
Structured Short Title	:	Use in coatings; Professional uses (SU22).

Environment		
CS 1	**Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor), Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)**	ERC8a, ERC8d
Worker		
CS 2	**Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions**	PROC1
CS 3	**Non-industrial spraying**	PROC11
CS 4	**Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, Chemical production where opportunity for exposure arises, Mixing or blending in batch processes, Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, Transfer of substance or mixture (charging/discharging) at dedicated facilities, Roller application or brushing, Treatment of articles by dipping and pouring, Use as laboratory reagent, Manual activities involving hand contact**	PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC13, PROC15, PROC19

3.2. Conditions of use affecting exposure

3.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C

3.2.2. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Technical and organisational conditions and measures		
Store substance within a closed system.		
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.

3.2.3. Control of worker exposure: Non-industrial spraying (PROC11)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Technical and organisational conditions and measures		
Handle in a fume cupboard or under extract ventilation.		
Other conditions affecting workers exposure		

Temperature	:	Assumes use at not more than 20°C above ambient temperature.

3.2.4. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) / Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) / Chemical production where opportunity for exposure arises (PROC4) / Mixing or blending in batch processes (PROC5) / Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a) / Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b) / Roller application or brushing (PROC10) / Treatment of articles by dipping and pouring (PROC13) / Use as laboratory reagent (PROC15) / Manual activities involving hand contact (PROC19)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.

3.3. Exposure estimation and reference to its source

3.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

Release route	Release rate	Release estimation method
Air	980 kg/day	
Waste	10 kg/day	
Soil	10 kg/day	

3.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
For scaling see
http://www.ecetoc.org/tra

Further details on scaling and control technologies are provided in SPERC factsheet.

ES 4: Cleaning; Industrial uses (SU3).

4.1. Title section

Exposure Scenario name	:	Cleaning
Structured Short Title	:	Cleaning; Industrial uses (SU3).

Environment		
CS 1	**Use of non-reactive processing aid at industrial site (no inclusion into or onto article)**	ERC4
Worker		
CS 2	**Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions**	PROC1
CS 3	**Industrial spraying**	PROC7
CS 4	**Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, Chemical production where opportunity for exposure arises, Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, Transfer of substance or mixture (charging/discharging) at dedicated facilities, Roller application or brushing, Treatment of articles by dipping and pouring**	PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC13

4.2. Conditions of use affecting exposure

4.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Annual amount per site	:	100000 kg

Release type	:	Continuous release
Emission days	:	20
Conditions and measures related to sewage treatment plant		
STP type	:	Municipal Sewage Treatment Plant
STP sludge treatment	:	No application of sewage sludge to soil Sewage sludge should be incinerated, contained or reclaimed.
Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	External treatment and disposal of waste should comply with applicable local and/or national regulations. External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure		
Local freshwater dilution factor	:	10
Local marine water dilution factor	:	1.000

4.2.2. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Technical and organisational conditions and measures		
Store substance within a closed system.		
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Assumes a good basic standard of occupational hygiene is implemented

4.2.3. Control of worker exposure: Industrial spraying (PROC7)

Product (article) characteristics		
Covers concentrations up to 5 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Technical and organisational conditions and measures		
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).		
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		
Assumes a good basic standard of occupational hygiene is implemented		

4.2.4. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) / Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) / Chemical production where opportunity for exposure arises (PROC4) / Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a) / Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b) / Roller application or brushing (PROC10) / Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics
Covers concentrations up to 100 %

Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		
Assumes a good basic standard of occupational hygiene is implemented		

4.3. Exposure estimation and reference to its source

4.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Release route	Release rate	Release estimation method
Air	1.000 kg/day	
Waste	0,003 kg/day	
Soil	0 kg/day	

4.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
For scaling see
http://www.ecetoc.org/tra

Further details on scaling and control technologies are provided in SPERC factsheet.

ES 5: Cleaning; Professional uses (SU22).

5.1. Title section

Exposure Scenario name	:	Cleaning
Structured Short Title	:	Cleaning; Professional uses (SU22).

Environment		
CS 1	**Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)**	ERC8a
CS 2	**Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)**	ERC8d
Worker		
CS 3	**Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions**	PROC1
CS 4	**Transfer of substance or mixture (charging/discharging) at non dedicated-facilities**	PROC8a
CS 5	**Roller application or brushing**	PROC10
CS 6	**Non-industrial spraying**	PROC11
CS 7	**Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, Chemical production where opportunity for exposure arises, Transfer of substance or mixture (charging/discharging) at dedicated facilities, Treatment of articles by dipping and pouring**	PROC2, PROC3, PROC4, PROC8b, PROC13

5.2. Conditions of use affecting exposure

5.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C

Amount used (or contained in articles), frequency and duration of use/exposure		
Annual amount per site	:	1000000 kg
Release type	:	Continuous release
Emission days	:	365
Conditions and measures related to sewage treatment plant		
STP type	:	Municipal Sewage Treatment Plant
STP sludge treatment	:	No application of sewage sludge to soil Sewage sludge should be incinerated, contained or reclaimed.
Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	External treatment and disposal of waste should comply with applicable local and/or national regulations. External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure		
Local freshwater dilution factor	:	10
Local marine water dilution factor	:	100

5.2.2. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Annual amount per site	:	1000000 kg
Release type	:	Continuous release
Emission days	:	365
Conditions and measures related to sewage treatment plant		
STP type	:	Municipal Sewage Treatment Plant
STP sludge treatment	:	No application of sewage sludge to soil

		Sewage sludge should be incinerated, contained or reclaimed.
Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	External treatment and disposal of waste should comply with applicable local and/or national regulations. External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure		
Local freshwater dilution factor	:	10
Local marine water dilution factor	:	100

5.2.3. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Technical and organisational conditions and measures		
Store substance within a closed system.		
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		
Assumes a good basic standard of occupational hygiene is implemented		

5.2.4. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	240 min
Use frequency	:	5 days per week
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		
Assumes a good basic standard of occupational hygiene is implemented		

5.2.5. Control of worker exposure: Roller application or brushing (PROC10)

Product (article) characteristics		
Covers concentrations up to 25 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		
Assumes a good basic standard of occupational hygiene is implemented		

5.2.6. Control of worker exposure: Non-industrial spraying (PROC11)

Product (article) characteristics

Covers concentrations up to 1 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		
Assumes a good basic standard of occupational hygiene is implemented		

5.2.7. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) / Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) / Chemical production where opportunity for exposure arises (PROC4) / Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b) / Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	5 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		

Assumes a good basic standard of occupational hygiene is implemented

5.3. Exposure estimation and reference to its source

5.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Release route	Release rate	Release estimation method
Air	20 kg/day	
Waste	0,001 kg/day	
Soil	0 kg/day	

5.3.2. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

Release route	Release rate	Release estimation method
Air	20 kg/day	
Waste	0,001 kg/day	
Soil	0 kg/day	

5.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
For scaling see
http://www.ecetoc.org/tra

Further details on scaling and control technologies are provided in SPERC factsheet.

ES 6: Use in laboratories; Industrial uses (SU3).

6.1. Title section

Exposure Scenario name	:	Use in laboratories
Structured Short Title	:	Use in laboratories; Industrial uses (SU3).

Environment		
CS 1	**Formulation into mixture, Use of non-reactive processing aid at industrial site (no inclusion into or onto article)**	ERC2, ERC4
Worker		
CS 2	**Roller application or brushing, Use as laboratory reagent**	PROC10, PROC15

6.2. Conditions of use affecting exposure

6.2.1. Control of environmental exposure: Formulation into mixture (ERC2) / Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	50 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Annual amount per site	:	730000 kg
Release type	:	Continuous release
Emission days	:	100
Conditions and measures related to sewage treatment plant		
STP type	:	Municipal sewage treatment plant
STP sludge treatment	:	No application of sewage sludge to soil Sewage sludge should be incinerated, contained or reclaimed.
Conditions and measures related to treatment of waste (including article waste)		

Waste treatment	:	External treatment and disposal of waste should comply with applicable local and/or national regulations. External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure		
Local freshwater dilution factor	:	10
Local marine water dilution factor	:	100

6.2.2. Control of worker exposure: Roller application or brushing (PROC10) / Use as laboratory reagent (PROC15)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		
Assumes a good basic standard of occupational hygiene is implemented		

6.3. Exposure estimation and reference to its source

6.3.1. Environmental release and exposure: Formulation into mixture (ERC2) / Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

Release route	Release rate	Release estimation method
Air	10 kg/day	
Waste	0,2 kg/day	

Soil	0,1 kg/day	

6.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
For scaling see
http://www.ecetoc.org/tra

Further details on scaling and control technologies are provided in SPERC factsheet.

ES 7: Use in laboratories; Professional uses (SU22).

7.1. Title section

Exposure Scenario name	:	Use in laboratories
Structured Short Title	:	Use in laboratories; Professional uses (SU22).

Environment		
CS 1	**Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)**	ERC8a
Worker		
CS 2	**Roller application or brushing, Use as laboratory reagent**	PROC10, PROC15

7.2. Conditions of use affecting exposure

7.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Annual amount per site	:	1 kg
Release type	:	Continuous release
Emission days	:	365
Conditions and measures related to sewage treatment plant		
STP type	:	Municipal Sewage Treatment Plant
STP sludge treatment	:	No application of sewage sludge to soil Sewage sludge should be incinerated, contained or reclaimed.
Other conditions affecting environmental exposure		

Local freshwater dilution factor	:	10
Local marine water dilution factor	:	100

7.2.2. Control of worker exposure: Roller application or brushing (PROC10) / Use as laboratory reagent (PROC15)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Duration	:	480 min
Use frequency	:	5 days per week
Other conditions affecting workers exposure		
Temperature	:	Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply		
Assumes a good basic standard of occupational hygiene is implemented		

7.3. Exposure estimation and reference to its source

7.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Release route	Release rate	Release estimation method
Air	0,01 kg/day	
Waste	0,01 kg/day	
Soil	0 kg/day	

7.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
For scaling see
http://www.ecetoc.org/tra

Further details on scaling and control technologies are provided in SPERC factsheet.

ES 8: Cleaning; Consumer uses (SU21).

8.1. Title section

Exposure Scenario name	:	Cleaning
Structured Short Title	:	Cleaning; Consumer uses (SU21).

Environment		
CS 1	**Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)**	ERC8a
CS 2	**Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)**	ERC8d
Consumer		
CS 3	Air care products	PC3
CS 4	Coatings and paints, thinners, paint removers	PC9a
CS 5	Coatings and paints, thinners, paint removers	PC9a
CS 6	Washing and cleaning products (including solvent based products)	PC35
CS 7	Coatings and paints, thinners, paint removers	PC9a
CS 8	Washing and cleaning products	PC35
CS 9	Washing and cleaning products (including solvent based products)	PC35
CS 10	Washing and cleaning products (including solvent based products)	PC35

8.2. Conditions of use affecting exposure

8.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Annual amount per site	:	2,6 kg

Release type	:	Continuous release
Emission days	:	365
Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	External treatment and disposal of waste should comply with applicable local and/or national regulations. External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure		
Local freshwater dilution factor	:	10
Local marine water dilution factor	:	100

8.2.2. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Annual amount per site	:	2,6 kg
Release type	:	Continuous release
Emission days	:	365
Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	External treatment and disposal of waste should comply with applicable local and/or national regulations. External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure		
Local freshwater dilution factor	:	10
Local marine water dilution factor	:	100

8.2.3. Control of consumer exposure: Air care products (PC3)

Air care, continuous action (solid and liquid) (PC3_2)

Product (article) characteristics		
Covers concentrations up to 10 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Amount used per event	:	0,48 g/event
Duration	:	480 min
Use frequency	:	365 days per year
Other conditions affecting consumers exposure		
Room size	:	20 m3
Ventilation rate	:	Covers use under typical household ventilation.

8.2.4. Control of consumer exposure: Coatings and paints, thinners, paint removers (PC9a)

Waterborne latex wall paint (PC9a_1, PC15_1)

Product (article) characteristics		
Covers concentrations up to 1 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Amount used per event	:	2,760 kg
Duration	:	132 min
Use frequency	:	4 days per year
Other conditions affecting consumers exposure		
Room size	:	20 m3
Ventilation rate	:	Covers use under typical household ventilation.

8.2.5. Control of consumer exposure: Coatings and paints, thinners, paint removers (PC9a)

Solvent rich, high solid, water borne paint (PC9a_2, PC15_2)

Product (article) characteristics		
Covers concentrations up to 27,5 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Amount used per event	:	0,744 kg
Duration	:	132 min
Use frequency	:	6 days per year
Other conditions affecting consumers exposure		
Room size	:	20 m3
Ventilation rate	:	Covers use under typical household ventilation.

8.2.6. Control of consumer exposure: Washing and cleaning products (including solvent based products) (PC35)

Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (PC8_2, PC35_2)

Product (article) characteristics		
Covers concentrations up to 50 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Amount used per event	:	0,215 kg
Duration	:	19,8 min
Use frequency	:	2 days per year
Other conditions affecting consumers exposure		

Room size	:	24 m3
Ventilation rate	:	Covers use under typical household ventilation.

8.2.7. Control of consumer exposure: Coatings and paints, thinners, paint removers (PC9a)

Removers (paint-, glue-, wall paper-, sealant-remover) (PC9a_4, PC15_4)

Product (article) characteristics		
Covers concentrations up to 50 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Amount used per event	:	0,491 kg
Duration	:	120 min
Use frequency	:	3 days per year
Other conditions affecting consumers exposure		
Room size	:	20 m3
Ventilation rate	:	Covers use under typical household ventilation.

8.2.8. Control of consumer exposure: Washing and cleaning products (PC35)

Laundry and dish washing products (PC35_1, PC8_1)

Product (article) characteristics		
Covers concentrations up to 5 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Amount used per event	:	15 g/event
Duration	:	30 min
Use frequency	:	365 days per year

Other conditions affecting consumers exposure		
Room size	:	20 m3

8.2.9. Control of consumer exposure: Washing and cleaning products (including solvent based products) (PC35)

Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (PC8_2, PC35_2)

Product (article) characteristics		
Covers concentrations up to 5 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Amount used per event	:	27 g/event
Duration	:	19,8 min
Use frequency	:	128 days per year
Other conditions affecting consumers exposure		
Room size	:	20 m3
Ventilation rate	:	Covers use under typical household ventilation.

8.2.10. Control of consumer exposure: Washing and cleaning products (including solvent based products) (PC35)

Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) (PC8_3, PC35_3)

Product (article) characteristics		
Covers concentrations up to 15 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		

Amount used per event	:	35 g/event
Duration	:	10,2 min
Use frequency	:	128 days per year
Other conditions affecting consumers exposure		
Room size	:	20 m3
Ventilation rate	:	Covers use under typical household ventilation.

8.3. Exposure estimation and reference to its source

8.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Release route	Release rate	Release estimation method
Air	950 kg/day	
Waste	25 kg/day	
Soil	25 kg/day	

8.3.2. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

Release route	Release rate	Release estimation method
Air	950 kg/day	
Waste	25 kg/day	
Soil	25 kg/day	

8.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
For scaling see
http://www.ecetoc.org/tra

Further details on scaling and control technologies are provided in SPERC factsheet.

ES 9: Use in coatings; Consumer uses (SU21).

9.1. Title section

Exposure Scenario name	:	Use in coatings
Structured Short Title	:	Use in coatings; Consumer uses (SU21).

Environment		
CS 1	**Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)**	ERC8a
CS 2	**Wide dispersive indoor use of reactive substances in open systems**	ERC8b
Consumer		
CS 3	Adhesives, sealants	PC1
CS 4	Coatings and paints, thinners, paint removers	PC9a

9.2. Conditions of use affecting exposure

9.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Annual amount per site	:	130 kg
Daily amount per site	:	370 kg
Regional use tonnage	:	270000 kg
Release type	:	Continuous release
Emission days	:	365
Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

		External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure		
Local freshwater dilution factor	:	10
Local marine water dilution factor	:	100

9.2.2. Control of environmental exposure: Wide dispersive indoor use of reactive substances in open systems (ERC8b)

Product (article) characteristics		
Covers concentrations up to 100 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Annual amount per site	:	130 kg
Daily amount per site	:	370 kg
Regional use tonnage	:	270000 kg
Release type	:	Continuous release
Emission days	:	365
Conditions and measures related to treatment of waste (including article waste)		
Waste treatment	:	External treatment and disposal of waste should comply with applicable local and/or national regulations. External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure		
Local freshwater dilution factor	:	10
Local marine water dilution factor	:	100

9.2.3. Control of consumer exposure: Adhesives, sealants (PC1)

Glues, hobby use (PC1_1)

Product (article) characteristics		

Covers concentrations up to 30 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Amount used per event	:	9 g/event
Duration	:	240 min
Use frequency	:	365 days per year
Other conditions affecting consumers exposure		
Room size	:	20 m3
Ventilation rate	:	Covers use under typical household ventilation.

9.2.4. Control of consumer exposure: Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics		
Covers concentrations up to 50 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Amount used per event	:	0,491 kg
Duration	:	120 min
Use frequency	:	3 days per year
Other conditions affecting consumers exposure		
Room size	:	20 m3
Ventilation rate	:	Covers use under typical household ventilation.

9.2.5. Control of consumer exposure:

Plasters and floor equalizers (PC9b_2)
Fillers and putty (PC9b_1)

Product (article) characteristics		
Covers concentrations up to 2 %		
Physical form of product	:	Liquid
Vapour pressure	:	10 hPa
Temperature	:	20 °C
Amount used (or contained in articles), frequency and duration of use/exposure		
Amount used per event	:	13,8 kg
Duration	:	120 min
Use frequency	:	12 days per year
Other conditions affecting consumers exposure		
Room size	:	20 m3
Ventilation rate	:	Covers use under typical household ventilation.

9.3. Exposure estimation and reference to its source

9.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Release route	Release rate	Release estimation method
Air	985 kg/day	
Waste	10 kg/day	
Soil	5 kg/day	

9.3.2. Environmental release and exposure: Wide dispersive indoor use of reactive substances in open systems (ERC8b)

Release route	Release rate	Release estimation method
Air	985 kg/day	
Waste	10 kg/day	
Soil	5 kg/day	

9.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
http://www.ecetoc.org/tra
For scaling see

Further details on scaling and control technologies are provided in SPERC factsheet.