Section 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	STANDOBLUE BASECOAT MIX 133 SILVER
Product code	4024669501339

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

Identified uses

based on use descriptor system given by guideline of the European Chemical Agency

Sector of use	SU 3, SU 22
Product category	PC9a, PC9b

Further information see chapter Exposure scenario
The product is only for industrial and/or professional use, not for any private consumer use.

1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification

Producer/Supplier	STANDOX GmbH
Street/Box	Christbusch 45
Nat.-Code/Postal code/City	DE 42285 Wuppertal
Telephone	+49 (0)202 2530-0

Information on SDS

Telephone	+49 (0)202 2530-2385
Telefax	
E-mail address	sds-information@deu.standox.com

1.4. Emergency telephone

Emergency telephone number	+44 (0)845 600-6640

For further information, please also consult our Internet site

http://www.standox.com

Section 2. Hazards identification

The mixture is classified as dangerous in accordance with Directive 1999/45/EC.

2.1. Classification of the substance or mixture

Classification of the mixture

According to European Directive 1999/45/EC as amended.
Classification : Irritant;
[R36] Irritating to eyes.

2.2. Label elements

Symbol and indication of hazard.

Xi Irritant

R-phrase(s)

R36	Irritating to eyes.

S-phrase(s)

S23	Do not breathe vapour/spray.
S38	In case of insufficient ventilation, wear suitable respiratory equipment.

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Section 3. Composition/information on ingredients

3.1. Substances

This product is a mixture. Health hazard information is based on its components.

3.2. Mixtures

Chemical characterization

Mixture of synthetic resins, pigments, and solvents as well as water

Hazardous components

Substances presenting a health or environmental hazard within the meaning of the DSD 67/548/EEC and/or (EC) 1272/ 2008 title II and annex VI as amended by (EC) 790/2009

CAS 71-41-0		pentan-1-ol	
EC 200-752-1		REACh no registration number available	3.00 - < 5.00 %
Classification		R10; Xn: R20; Xi: R37/38	
	[VI*]	Flam. Liq. 3, H226; Skin Irrit. 2, H315; Acute Tox. 4, H332; STOT SE 3, H335;	
CAS 71-23-8		propan-1-ol	
EC 200-746-9		REACh no registration number available	3.00 - < 5.00 %
Classification		F: R11; Xi: R41; R67	
	[VI*]	Flam. Liq. 2, H225; Eye Dam. 1, H318; STOT SE 3, H336;	
CAS 107-98-2		1-methoxy-2-propanol	
EC 203-539-1		REACh 01-2119457435-35	3.00 - < 5.00 %
Classification		R10; R67	
	[VI*]	Flam. Liq. 3, H226; STOT SE 3, H336;	
CAS 111-76-2		2-butoxyethanol	
EC 203-905-0		REACh 01-2119475108-36	1.00 - < 2.00 %
Classification		Xn: R20/21/22; Xi: R36/38	
	[VI*]	Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Acute Tox. 4, H332;	
CAS 64742-48-9		Naphtha (petroleum), hydrotreated heavy (<0,1% benzene)	
EC 265-150-3		REACh no registration number available	1.00 - < 2.00 %
Classification		R66; Xn: R65; NotaH; NotaP	
		EUH066; Asp. Tox. 1, H304; Notes: H P;	
CAS 67-63-0		propan-2-ol	
EC 200-661-7		REACh 01-2119457558-25	1.00 - < 2.00 %
Classification		F: R11; Xi: R36; R67	
	[VI*]	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336;	
CAS 95-63-6		1,2,4-trimethylbenzene	
EC 202-436-9		REACh no registration number available	0.50 - < 1.00 %
Classification		R10; Xn: R20; Xi: R36/37/38; N: R51/53	
	[VI*]	Flam. Liq. 3, H226; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Acute Tox. 4, H332; STOT SE 3, H335; Aquatic Chronic 2, H411;	
CAS 64742-95-6		solvent naphtha (petroleum), light arom. (<0,1% benzene)	
EC 265-199-0		REACh 01-2119455851-35	0.50 - < 1.00 %
Classification		R10; Xi: R37; N: R51/53; Xn: R65; R66; R67; NotaH; NotaP	
		EUH066; Flam. Liq. 3, H226; Asp. Tox. 1, H304; STOT SE 3, H335; STOT SE 3, H336; Aquatic Chronic 2, H411; Notes: H P;	

CAS 108-67-8		mesitylene	
EC 203-604-4		REACh no registration number available	0.10 - < 0.20 %
Classification		R10; Xi: R37; N: R51/53	
	[VI*]	Flam. Liq. 3, H226; STOT SE 3, H335; Aquatic Chronic 2, H411;	

Up to the given revision date of this safety data sheet only the above mentioned REACh registration numbers are assigned to the chemical substances used in this mixture.

Additional advice

See full text of R-phrases in chapter 16.
See full text of H-phrases in chapter 16.

[VI*]: Harmonised classification given by Annex VI of Regulation (EC) No 1272/2008 in its latest amended form

Section 4. First aid measures

4.1. Description of first aid measures

General advice

When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.

Inhalation

Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Skin contact

Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Eye contact

Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Ingestion

If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

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

Please see practical experience in section 11.

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

If unconscious place in recovery position and seek medical advice.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray, Dry chemical, Foam.

Extinguishing media which shall not be used for safety reasons

High volume water jet Water spray

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Fire will produce dense black smoke containing hazardous combustion products. Exposure to decomposition products may be a hazard to health.

Hazardous decomposition products

When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

5.3. Advice for firefighters

Fire and Explosion Hazards

The product is not flammable. [According to European Directive 67/548/EEC as amended.] Avoid heating above flash point.

Special Protective Equipment and Fire Fighting Procedures

Wear as appropriate: Full protective flameproof clothing. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep in a well-ventilated place. Keep away from sources of ignition. Do not inhale vapours.

6.2. Environmental precautions

Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems. Please avoid any emission of volatile organic compounds as possible.

6.3. Methods and materials for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations. Clean preferably with a detergent; avoid use of solvents.

6.4. Reference to other sections

Comply with safety directives (see chapters 7 and 8).

Section 7. Handling and storage

7.1. Precautions for safe handling

Safe handling advice

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Operators should wear antistatic footwear and clothing. No sparking tools should be used. Avoid skin and eye contact. Do not breathe vapours or spray mist. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Comply with the health and safety at work laws. If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion

Solvent vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Never use pressure to empty container: container is not a pressure vessel. Always keep in containers of same material as the original one. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Observe label precautions. Storage temperature: +5 to +35ºC. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage. The storage and use of this product is subject to the requirements of the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR). Up to 250 litres of such flammable liquids may be stored in a work area provided they are kept in a fire-proof cupboard or bin. Larger quantities must be kept in a separate storeroom conforming to the structural requirements of the regulations. Further guidance is contained in the HSE ACOP L135, “Storage of Dangerous Substances.”

Advice on common storage

Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

Do not store together with explosives, compressed, liquefied and pressurised gases, aerosols, flammable liquids, oxidizing

products, non combustible toxic products and infectious products.

7.3. Specific end uses

Please see exposure scenarios as given in the annex.

Section 8. Exposure controls/personal protection

8.1. Control parameters

DNEL

CAS-No.	Chemical Name	End Use	Exposure routes	Frequency of exposure	Type	Value
71-41-0	pentan-1-ol	Workers	Inhalative	Long term	Systemic effects	20 mg/kg liq
71-23-8	propan-1-ol	Workers	Dermal	Long term	Systemic effects	136 mg/kg/day
		Workers	Inhalative	Long term	Systemic effects	107.5 mg/kg liq
107-98-2	1-methoxy-2-propanol	Workers	Dermal	Long term	Systemic effects	50.6 mg/kg
		Workers	Inhalative	Long term	Systemic effects	100 mg/kg liq
		Workers	Inhalative	Short term	Local effects	553.5 mg/m3
111-76-2	2-butoxyethanol	Workers	Dermal	Long term	Systemic effects	75 mg/kg
		Workers	Dermal	Short term	Local effects	89 mg/kg
		Workers	Inhalative	Long term	Systemic effects	98 mg/kg
		Workers	Inhalative	Short term	Local effects	663 mg/kg
67-63-0	propan-2-ol	Workers	Dermal	Long term	Systemic effects	888 mg/kg/day
		Workers	Inhalative	Long term	Systemic effects	200 mg/kg liq
64742-95-6	solvent naphtha (petroleum), light arom. (<0,1% benzene)	Workers	Dermal	Long term	Systemic effects	699 mg/Kg
		Workers	Inhalative	Long term	Systemic effects	608 mg/m3
		Workers	Oral	Long term	Systemic effects	699 mg/Kg

PNEC

CAS-No.	Chemical Name	Compartment	Type	Value
107-98-2	1-methoxy-2-propanol	Aquatic	Sediment	41.6 mg/l
		Aquatic	Fresh water	10 mg/l
		Aquatic	Sea-water	1 mg/l
111-76-2	2-butoxyethanol	Aquatic	Sediment	8.14 mg/l
		Aquatic	Sea-water	8.8 mg/l
67-63-0	propan-2-ol	Aquatic	Sediment	28 mg/kg
		Aquatic	Fresh water	140.9 mg/l
		Aquatic	Sea-water	140.9 mg/l

Community / national occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
71-23-8	propan-1-ol			STEL	625 mg/m3	
				STEL	250 ppm	
				TWA	500 mg/m3	
				TWA	200 ppm	
107-98-2	1-methoxy-2-propanol		15 min	IOELV15	568 mg/cm3	Skin
			15 min	IOELV15	150 ppm	Skin
			8 hr	IOELV8	375 mg/cm3	Skin

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
			8 hr	IOELV8	100 ppm	Skin
				STEL	560 mg/m3	
				STEL	150 ppm	
				TWA	375 mg/m3	
				TWA	100 ppm	
111-76-2	2-butoxyethanol		15 min	IOELV15	246 mg/cm3	Skin
			15 min	IOELV15	50 ppm	Skin
			8 hr	IOELV8	98 mg/cm3	Skin
			8 hr	IOELV8	20 ppm	Skin
				STEL	50 ppm	
				TWA	25 ppm	
67-63-0	propan-2-ol		15 min	STEL	500 ppm	
				STEL	1,250 mg/m3	
			8 hr	TWA	999 mg/m3	
			8 hr	TWA	400 ppm	
95-63-6	1,2,4-trimethylbenzene		8 hr	IOELV8	100 mg/cm3	
			8 hr	IOELV8	20 ppm	
				TWA	125 mg/m3	
				TWA	25 ppm	
108-67-8	mesitylene		8 hr	IOELV8	100 mg/cm3	
			8 hr	IOELV8	20 ppm	
				TWA	125 mg/m3	
				TWA	25 ppm	

8.2. Exposure controls

Additional technical information on the plant

Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn. Mask with gas filter, type A (EN 141)

Protective equipment

Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.

Chemical Name	Glove material	Glove thickness	Break through time
propan-1-ol	Viton (R) ®	0.7 mm	480 min

Chemical Name	Glove material	Glove thickness	Break through time
	Nitrile rubber	0.33 mm	481 min
2-butoxyethanol	Viton (R) ®	0.7 mm	480 min
	Nitrile rubber	0.33 mm	480 min
solvent naphtha (petroleum), light arom. (<0,1% benzene)	Viton (R) ®	0.7 mm	30 min

The protective glove should be checked in each case for their work specific suitability (e.g. mechanical stability, product compatibility, and anti-static properties). When the intended use is for spray application a nitrile glove of the chemical resistance group 3 (e.g. Dermatril® glove) is to be used. After contamination, the glove has to be changed. If immersing the hands into the product is not avoidable (e.g. maintenance work) a butyl or fluorocarbon rubber glove should be used. When skin exposure may occur to materials specified in section 3 of this SDS, advice should be sought from the glove supplier as to appropriate type to use with this product and the permeation breakthrough times. Care should be taken when working with sharp edged articles as these can easily damage the gloves and make them ineffective. The instructions and information provided by the glove supplier on use, storage, maintenance and replacement must be followed. Damaged gloves or those showing signs of wear should be replaced immediately.

Eye protection

Wear protective eyewear for protection against solvent spatter.

Skin and body protection

Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

Hygiene measures

Wash skin thoroughly with soap and water or use recognized skin cleanser. Do not use organic solvents!

Environmental exposure controls

Do not let product enter drains. For ecological information refer to section 12.

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Form: liquid Colour: silver Odour: Odour is not perceptible.

Important health, safety and environmental information

Property	Value	Method
pH	No data available.	
Melting point/freezing point	Not applicable.	
Boiling point/boiling range	100 °C	
Flash point	50 °C	ISO 3679 Does not sustain combustion.
Evaporation rate	Slower than Ether	
Flammability (solid, gas)	not relevant as product is liquid	
Lower explosion limit	no data available	
Upper explosion limit	no data available	
Vapour pressure	3.2 hPa	
Vapour density	no data available	
Relative density	1.02 g/cm^3	20 °C - DIN 53217/ISO 2811
Solubility(ies)		
Water solubility	appreciable	
Solubility in other solvents	miscible with most organic solvents Listed in: Section 3. Composition/information on ingredients	
Partition coefficient: n-octanol/water	This product is a mixture. For ingredient details see section 12	
Autoignition temperature	224 °C	DIN 51794 based on organic solvent content
Decomposition temperature	This product is a mixture. For further information see section 10.	
Viscosity (23 °C)	24 s	ISO 2431 - 1993 6 mm

Explosive properties	Not explosive
Oxidizing properties	not oxidizing

9.2. Other data

Solvent separation test	< 3%	ADR/RID
Content of volatile components (including water)	79.8 %	Basis Vapour pressure >= 0.01 kPa
organic solvent content	19.7 %	Basis Vapour pressure >= 0.01 kPa

Section 10. Stability and reactivity

10.1. Reactivity

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.2. Chemical stability

The product is chemically stable.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Stable under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials to avoid

not required under normal use

10.6. Hazardous decomposition products

None known.

Section 11. Toxicological information

11.1. Information on toxicological effects

General observations

There is no data available on the product. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See sections 2 and 3 for details.

Practical experience

Swallowing may cause nausea, diarrhoea and vomiting. Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

Acute toxicity

Acute inhalation toxicity

EINECS-No.	Chemical Name	Species	Type	Exposure time	Value	Method
203-905-0	2-butoxyethanol	guinea pig	LC50	1 h	> 691 ppm	
202-436-9	1,2,4-trimethylbenzene	rat	LC50	4 h	18,000 mg/m3	

Acute dermal toxicity

EINECS-No.	Chemical Name	Species	Type	Exposure time	Value	Method
203-905-0	2-butoxyethanol	rabbit	LD50		435 mg/kg	

Acute oral toxicity

EINECS-No.	Chemical Name	Species	Type	Exposure time	Value	Method
203-905-0	2-butoxyethanol	rat	LD50		1,746 mg/kg	

Subacute toxicity

2-butoxyethanol and its acetate are readily absorbed through the skin and will cause harmful effects on the blood.

irritant effects

The liquid splashed in the eyes may cause irritation and reversible damage.

Section 12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The data in this section is consistent with data from chemical safety reports available at the date of revision.

12.1. Toxicity

Aquatic toxicity

Acute toxicity aquatic invertebrates

EINECS-No.	Chemical Name	Species	Type	Exposure time	Value	Method
202-436-9	1,2,4-trimethylbenzene	Daphnia	LC50	48 h	6 mg/l	
265-199-0	solvent naphtha (petroleum), light arom. (<0,1% benzene)	Daphnia	EC50	24 h	170 mg/l	
203-604-4	mesitylene	Daphnia	EC50	48 h	6 mg/l	

Acute and extended toxicity of fishes

EINECS-No.	Chemical Name	Species	Type	Exposure time	Value	Method
202-436-9	1,2,4-trimethylbenzene	Oncorhynchus mykiss (rainbow trout)	EC50	96 h	9.22 mg/l	
265-199-0	solvent naphtha (petroleum), light arom. (<0,1% benzene)	Danio rerio (zebra fish)	LC50	96 h	10 mg/l	
203-604-4	mesitylene	Carassius auratus (goldfish)	LC50	96 h	12.5 mg/l	

Toxicity with aquatic plants

EINECS-No.	Chemical Name	Species	Type	Exposure time	Value	Method
265-199-0	solvent naphtha (petroleum), light arom. (<0,1% benzene)	Algae	EC50	72 h	10 mg/l	

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects

The preparation was evaluated in accordance with the conventional method of the preparations directive 1999/45/EC, and it was not classified as dangerous for the environment, but it does contain environmentally dangerous materials. For details, see section 3

Adsorbed organic bound halogens (AOX)

Product does not contain organic linked halogens contributing to AOX.

Section 13. Disposal considerations

13.1. Waste treatment methods

Dispose of in accordance with local regulations.

Product

Recommendation:
A disposal process that converts the waste into energy is recommended. If this is not possible the hazardous waste must be disposed of by incineration.

Waste Key Number	Description
08 01 19	aqueous suspensions containing paint or varnish containing organic solvents or other dangerous substances

Uncleaned packaging

Recommendation:
Properly emptied containers are to be scrap processed or reconditioned. Improperly emptied containers are considered hazardous waste (waste key number 150110). Waste, including emptied containers, is controlled waste. Waste, including emptied containers, is controlled waste.

Section 14. Transport information

Not classified as dangerous in the meaning of transport regulations.

ADR/RID:in accordance with nota 1 of chapter 2.2.3.1.1
IMDG:in accordance with chapter 2.3.1.3
ICAO/IATA:in accordance with chapter 3.3.1.3

Not classified as supporting combustion according to the transport regulations.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

ADR/RID; IMDG; ICAO/IATA: none

Marine pollutant

IMDG: no

14.6. Special precautions for user

please see section 6 - 8

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Deliveries shall only be made based on appropriate packaging and in compliance with traffic laws.

Section 15. Regulatory information

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

National legislation

This safety datasheet has been prepared according to British legislation.

The product is labeled according to the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 as amended (CHIP Regulations). The risk associated with the use of this product must be assessed in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations and the Dangerous Substances and Explosive Atmospheres Regulations.

15.2. Chemical Safety Assessment

No safety checks were carried out on the mixture.

Section 16. Other information

Full text of R phrases with no. appearing in section 3

R10	Flammable.
R11	Highly flammable.
R20	Harmful by inhalation.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R36/38	Irritating to eyes and skin.
R37	Irritating to respiratory system.
R37/38	Irritating to respiratory system and skin.
R41	Risk of serious damage to eyes.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

Full text of H phrases with no. appearing in section 3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.

H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Information taken from reference works and the literature.

Substance No.	CAS no: www.cas.org./EO/regsys.html EC no: http://ecb.jrc.it/esis/index.php?PGM=ein
Substances presenting a health or environmental hazard within the meaning of Directive 67/548/EEC.	http://ecb.jrc.it/existing-chemicals/ http://ecb.jrc.it/classification-labelling/ http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB http://www.cdc.gov/niosh/ipcs/icstart.html
Other directives, limitations and prohibitory regulations	Directive 76/769/EC Directive 98/24/EC Directive 90/394/EC Directive 793/93/EC Directive 1999/45/EC Directive 2006/8/EC EUR-LEX: http://europa.eu.int/eur-lex/lex
Exposure limit for the pure substance	http://osha.europa.eu/OSHA

Training advice

Directive 76/769/EC
Directive 98/24/EC

Further information

The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.

Report version

Version	Changes
18.9	9

Revision Date: 2012-05-11

Annex - Exposure scenarios

Exposure scenarios for industrial and professional use of coating material

The exposure scenario provides specific information on how a hazardous substance (in a mixture) is to be managed and controlled. It considers specific conditions of use, in order to ensure that a use is safe to humans and the environment. Identified risk management measures are to be implemented unless the downstream user is able to ensure safe use in a diverging way.

1. Exposure scenario (type 1) for application of coatings by spraying

Free short title:

Industrial or professional application of coatings by spraying (professional use in close to industrial setting)

Systematic title based on use descriptors:

Sector of use	SU 22, SU 3
Product category	PC9a, PC9b
Process category	PROC4 (covering PROC2), PROC5 (covering PROC3), PROC8a (covering PROC8b), PROC7 or PROC11
Environmental release category	ERC4, ERC5

Activities covered:

Preparing (mixing, adding activator, adjusting viscosity), transferring/loading, application by spraying, drying and curing of coating material

Contributing scenarios:

spERC x1b	Pneumatic spray coating incl. purge loss
spERC x3	Equipment cleaning when using waterborne coatings: sludge treatment with water release
PROC4 (covering PROC2)	Applicable for: Drying and curing of coatings
PROC5 (covering PROC3)	Applicable for: Mixing of tints, adding of activator, adjustment of viscosity
PROC8a (covering PROC8b)	Transfer of substance or preparation (charging/discharging)
PROC7	Industrial spraying
PROC11	Non industrial spraying

Assessment method:

CEPE spERC concept
ECETOC TRA version 2.0
DuPont Expert judgement (EJ)

2. Operational conditions and risk management measures

2.1. Contributing environmental scenarios

Preparing, transferring/loading, application by spraying, drying and curing of coating material

Process conditions

Potential transfer to process waste water stream when using Venturi wet scrubber for collecting overspray

	M(sperc)	Transfer to water	Dissolution in water	Release after on-site WWTP	Municipal STP
spERC x1b	Solids in paint	70%	5%	10%	yes
spERC x1b	Volatiles in paint	100%	1%	100%	yes

Potential transfer to process waste water stream when treating sludge from equipment cleaning

	M(sperc)	Transfer to water	Dissolution in water	Release after on-site WWTP	Municipal STP
spERC x3	Solids in paint	10%	5%	n.a.	yes
spERC x3	Volatiles in paint	10%	50%	n.a.	yes

2.2. Contributing worker scenarios

Preparing, transferring/loading, application by spraying, drying and curing of coating material

	PROC	DOA	LEV/TRV	RPE	DPE
Mixing	5 (covering 3)	> 4 h	TRV	no	yes level 2
Transferring	8a (covering 8b)	> 4 h	TRV	no	yes level 2
Non-industrial spraying	11	> 4 h	LEV	yes due to aerosol	yes level 2
Industrial spraying	7	> 4 h	LEV	yes due to aerosol	yes level 2
Curing	4 (covering 2)	> 4 h	TRV	no	yes level 2

Further specification

Above parameters represent standard (default) assumptions according to CEPE templates for operational conditions

3. Exposure estimation and reference to its source

Exposure assessment bases on initial scenarios for the used chemicals in this preparation as provided by manufactuters and importers. Identification of a lead substance indicator per route is based on the DPD+ methodology, taking into account content, volatility and hazard characteristics. Use of the mixture is considered safe when conditions for safe use of the lead substance indicator are respected. Risk assessment is not applicable as long as no initial exposure scenarios are available.

3.1. Environmental assessment

No relevant ecotoxicological impact expected; specific description and assessment of environmental exposure obsolete;

3.2. Worker assessment

No relevant toxicological impact expected; specific description and assessment of worker exposure obsolete;

Further specification

Above exposure assessment is performed for coating material as supplied. Exposure assessment requires adaptation to ready for use mixture (review hardener and/or diluant)

Part 4 is common and is available at the end of the Annex.

---

1. Exposure scenario (type 3) for sanding

Free short title:

Industrial or professional sanding of cured coating (professional use in close to industrial setting)

Systematic title based on use descriptors:

Sector of use	SU 22, SU 3
Product category	PC9a, PC9b
Process category	PROC24
Environmental release category	ERC12a

Activities covered:

Sanding of cured coating

Contributing scenarios:

spERC x4	Wet sanding/wet dust collection in serial production
spERC x5	Wet sanding/wet dust collection in refinishing process
PROC24	Applicable for: Sanding, grinding, chipping or polishing of cured coating film

Assessment method:

CEPE spERC concept
ECETOC TRA version 2.0
DuPont Expert judgement (EJ)

2. Operational conditions and risk management measures

2.1. Contributing environmental scenarios

Sanding of cured coating

Process conditions

Potential transfer to process waste water stream when applying wet sanding techniques or wet dust collection

	M(sperc)	Transfer to water	Dissolution in water	Release after on-site WWTP	Municipal STP
spERC x4 (solids)	Solids in dry film	2%	10%	10%	yes
spERC x5 (solids)	Solids in dry film	2%	10%	100%	yes

2.2. Contributing worker scenarios

Sanding of cured coating

	PROC	DOA	LEV/TRV	RPE	DPE
Sanding	24	> 4 h	LEV	no	yes level 2

Further specification

Above parameters represent standard (default) assumptions according to CEPE templates for operational conditions

3. Exposure estimation and reference to its source

Exposure assessment bases on initial scenarios for the used chemicals in this preparation as provided by manufactuters and importers. Identification of a lead substance indicator per route is based on the DPD+ methodology, taking into account content, volatility and hazard characteristics. Use of the mixture is considered safe when conditions for safe use of the lead substance indicator are respected. Risk assessment is not applicable as long as no initial exposure scenarios are available.

3.1. Environmental assessment

No relevant ecotoxicological impact expected; specific description and assessment of environmental exposure obsolete;

3.2. Worker assessment

No relevant toxicological impact expected; specific description and assessment of worker exposure obsolete;

Further specification

Above exposure assessment is performed for dry content of coating material as supplied. Exposure assessment requires adaptation to ready for use mixture (including reacted compounds where appropriate)

4. Guidance to downstream user to evaluate whether he works inside the boundaries set by the exposure scenario

By variation of operational conditions and risk management measures (scaling), a downstream user can check whether he works inside the exposure scenario boundaries.
Standard scaling can be based on exposure modifying factors as used by ECETOC TRA which are listed below.
RCR(s) = RCR(o) * EMF(s)/EMF(o)
RCR(s) shall be < 1
RCR(s) = scaled risk characterisation ratio; RCR(o) = original risk characterisation ratio (in part 3)
EMF(s) = exposure modifying factor selected for scaling; EMF(o) = original exposure modyfing factor (in part 3)
Scaling may be used consecutively for multiple determinants.
Example: No technical room ventilation for mixing of tints (EMF(o) = 0.3), duration of activity restricted to 1 h/d (EMF(s) = 0.2)

Specific scaling may be based on measured values at the individual site.

Content % range	Content Factor	DOA h	DOA Factor
> 25	1	> 4	1
5 - 25	0.6	1 - 4	0,6
1 - 5	0.2	0,25-1	0,2
< 1	0.1	<0,25	0,1

Respiratory protection equipment	Factor
No RPE	1
Filter mask	0,1
Air-fed mask	0,05

Skin protection equipment	Factor
No gloves	1
Suitable gloves	0,2
Resistant gloves, training	0,1
Resistant gloves, specific training	0,05
Resistant gloves, specific training, intensive supervision	0,02

PROC	TRV	LEV Ind	LEV Pro	LEV Derm
2	0.3	0.1	0.2	0.1
3	0.3	0.1	0.2	0.1
4	0.3	0.1	0.2	0.1
5	0.3	0.1	0.2	0.005
7		0.05	n.a.	0.05
8a	0.3	0.1	0.2	0.01
8b	0.3	Sol 0.05	Sol 0.2	0.1
8b	0.3	Vol 0.03	Vol 0.1	0.1
11		n.a.	0.2	0.02
24		0.2	0.25	0.1

PROC	Factor	PROC	Factor (Prof.)	Factor (Ind.)
4 (high volatility)	1	2 (high volatility)	0.2	0.5
5 (high volatility)	1	3 (high volatility)	0.2	0.4
8a (high volatility)	1	8b (high volatility)	0.5	0.6
4 (medium volatility)	1	2 (medium volatility)	0.4	0.5
5 (medium volatility)	1	3 (medium volatility)	0.25	0.5
8a (medium volatility)	1	8b (medium volatility)	0.5	1
4 (low volatility)	1	2 (low volatility)	0.5	0.2
5 (low volatility)	1	3 (low volatility)	0.3	0.6
8a (low volatility)	1	8b (low volatility)	0.4	0.5

Good practice advice

Use by private end consumers (SU 21) not considered as product is assigned for professional use only
Wide dispersive use (ERC 8a-8f) not assessed as professional use in paintshops is considered as non dispersive
Environmental assessment based on CEPE sector specific ERC approach (spERC factors for solids and volatiles)
Environmental assessment only relevant in case of substance transfer into a waste water stream
No relevant substance transfer expected to marine water, sediment, or soil
The spERC approach is only applicable to demonstrate safe use of a substance for environmental aspects under REACH.
It is not suitable to demonstrate compliance with applicable local waste water regulations.
Ingestion (oral route) not assessed as not considered to occur in case of industrial / professioonal use
Hazards due to particle shape negligible due to inclusion into polymer matrix (silicogenic or similar compounds)
Exposure assessment is performed for coating material as supplied.
Adaptation may be required for ready for use mixture depending on selection of specific hardener and diluant
Loss during service life negligible, in any case less than 1 %
Waste stage not assessed as incineration / biological treatment of waste and safe deposition of inert residues is assumed
Use for coating of toys, articles designed for prolonged skin contact or indirect food contact needs further assessment
No SVHC above declaration threshold contained unless disclosed in section 3 of SDS

Following advice shall be pursued as long as exposure assessment in part 3 does not contain sufficient information

Recommendation to use technical room ventilation.
Advice to wear skin/eye protection as standard RMM due to risk of splashes/droplets.
Advice on respiratory protection equipment for PROC 7, 11 is based on DuPont expert judgement
Advice to use spray-booth or efficient exhaust ventilation.
Advice to wear respiratory protection equipment as standard RMM due to aerosol formation, even in ventilated booth.
Advice to use integrated dust evacuation, in case of air recirculation in accordance to EN 60335.
Advice to use local exhaust ventilation according to EN 15012 for welding of coated substrates.
Advice to provide spill retention system according to applicable regulation.
Recommendation to avoid contact with water.
Recommendation to use respiratory protection equipment when sanding, even in combination with integrated dust evacuation.

Standardised use descriptors according European Chemical Agency (EChA) Guidance on information requirements and chemical safety assessment, chapter R.12

SU 3	Industrial uses: Uses of substances as such or in preparations at industrial sites
SU 22	Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
PC9a	Coatings and paints, thinners, paint removers
PC9b	Fillers, putties, plasters, modelling clay
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 (multi-stage 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
PROC11	Non industrial spraying
PROC24	High (mechanical) energy work-up of substances bound in materials and/ or articles
ERC4	Industrial use of processing aids in processes and products, not becoming part of articles
ERC5	Industrial use resulting in inclusion into or onto a matrix
ERC12a	Industrial processing of articles with abrasive techniques (low release)

Glossary

SU	Sector of use
PC	Product category
PROC	Process category
ERC	Environmental release category
AC	Article category
spERC	Sector specific environmental release category (for CEPE uses)
CEPE	European council of producers and importers of paints, printing inks and artists' colours
OC	Operational condition
DOA	Duration of activity
LEV	Local exhaust ventilation
TRV	Technical room ventilation
RMM	Risk Management Measures
RPE	Respiratory protection equipment
DPE	Dermal protection equipment
WWTP	Waste water treatment plant (on-site)
STP	Sewage treatment plant (municipal)
SVHC	Substance of very high concern
LSI	Lead substance indicator
M(sperc)	Maximum volume of lead substance which can be used safely under conditions described by CEPE spERC
DNEL	Derived No Effect Level
DMEL	Derived minimum effect level
PNEC	Predicted No Effect Concentration
ECETOC TRA	Targeted risk assessment as proposed by European center for ecotoxicology and toxicology of chemicals
RCR	Risk characterisation ratio