SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

Product name: KH-Lackfarbe, satin finish
Date of printing: 11.10.2023

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

1.1 Product identifier

Product name: KH-Lackfarbe, satin finish
Unique Formula Identifier (UFI-Code): Q770-P0SX-D00Q-DU4A
Product type: alkyd paint

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

Field of application: metal industry
Identified uses: Industrial applications, Professional applications, Used by spraying.

1.3 Details of the supplier of the safety data sheet:

Producer/Supplier: Bisdorf GmbH
Industriestraße 49-51
D-52224 Stolberg

Telephone: +49 (0) 2402 / 71048
Telefax: +49 (0) 2402 / 75465
E-Mail adress: bisdorf-lacke@arcor.de

1.4 Emergency telephone number

Emergency information: Information Center against Poisons
University Bonn
Telephone number: +49 (0)228 / 19240

Date of issue: 11.10.2023
Date of previous issue: 04.10.2021

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification acc. to GHS

Section	Hazard class	Hazard class and category	Hazard statement
2.6	flammable liquid	Flam. Liq. 3	H226
3.2	skin corrosion/irritation	Skin Irrit. 2	H315
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	STOT SE 3	H335
3.8D	specific target organ toxicity - single exposure (narcotic effects, drowsiness)	STOT SE 3	H336

See Section 11 for more detailed information on health effects and symptoms.

Bisdorf GmbH Lackfabrikation
Industriestr. 49 – 51
52224 Stolberg
Telefon: 0241/27 10 48
Fax: 0241/27 54 65

2.2 Label elements

Hazard pictograms:

Signal word: Warning

Hazard statements:
H226 - Flammable liquid and vapor.
H315 - Causes skin irritation.
H335 - May cause respiratory irritation.
H336 - May cause drowsiness or dizziness.
EUH066 - Repeated exposure may cause skin dryness or cracking.
EUH211 - Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

Precautionary statements:
Prevention:
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260 - Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 - Get medical advice/attention if you feel unwell.
P331 - Do NOT induce vomiting.

Storage:
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.

Disposal:
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements: -

Indication at Labelling:
The pictogram GHS 02 (flame) can according GHS/CLP Art. 33 (3) substituted to label of ADR.

2.3 Other hazards

Endocrine disrupting properties (human health):
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.

Endocrine disrupting properties (environment):
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.

PBT and vPvB assessment:
This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

Bisdorf GmbH Lackfabrikation
Industriestr. 49—51
52224 Stolberg
Telefon: 0241/27 10 48
Fax: 0241/27 54 65

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product/ingredient name	Identifiers	%	**Classification** 1272/2008/EC (CLP)	Type
xylene (mixture of isomers)	REACH: 01-2119488216-32 CAS: 1330-20-7 EG: 215-535-7	5-10	Flam. Liq. 3, H226 C Acute Tox. 4, H312 Acute Tox. 4, H332 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373	[1] [2]
ethylbenzene	REACH: 01-2119489370-35 CAS: 100-41-4 EG: 202-849-4	1-5	Flam. Liq. 2, H225 - Asp. Tox. 1, H304 Acute Tox. 4, H332 STOT SE 3, H335 STOT RE 2, H373 (hearing organs)	[1] [2]
solvent naphtha (petroleum), light arom.	REACH: 01-2119455851-35 CAS: *64742-95-6 EG: 265-199-0 M-Faktor: 1	10-15	Flam. Liq. 3, H226 P Asp. Tox. 1, H304 STOT SE 3, H335 STOT SE 3, H336 Aquatic Chronic 2, H411	[1] [2]
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	REACH: 01-2119463258-33 CAS: 64742-48-9 EG: 265-150-3	1-5	Flam. Liq. 3, H226 - Asp. Tox. 1, H304 STOT SE 3, H336	[1] [2]
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	REACH: 01-2119458049-33 CAS: 64742-82-1 EG: 919-446-0	1-5	Flam. Liq. 3, H226 P STOT SE 3, H336 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1]
1-methoxy-2-propanol (PM)	REACH: 01-2119457435-35 CAS: 107-98-2 EG: 203-539-1	1-5	Flam. Liq. 3, H226 - STOT SE 3, H336	[1] [2]
2-pentanone oxime	REACH: 01-2119980079-27 CAS: 623-40-5 EG: 484-470-6	<0,5	AcuteTox. 4, H302 - Eye Irrit. 2, H319	
titanium dioxide (note 10)	REACH: 01-2119489379-17 CAS: 13463-67-7 EG: 236-675-5	<25	Carc. 2, H351	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type
[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance does not meet the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.
[5] Substance of equivalent conce.

Occupational exposure limits, if available, are listed in Section 8.

Additional information:
* The substance contains less than 0.1% benzene. Classification as a carcinogen or germ cell mutagen is not applicable (Note P of the EC List of Substances / Annex VI of EC Regulation 1272/2008).

Bisdorf GmbH Lackfabrikation
Industriestr. 49–51
52224 Stolberg
Telefon: 0241/27 10 48
Fax: 0241/27 54 65

Note 10 (EU 2020/217): The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter ≤ 10 µm.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:	In all cases of doubt, or when symptoms persist, seek medical attention. If unconscious, place in recovery position and get medical attention immediately. Never give anything by mouth to an unconscious person. In any case show the physician the Safety Data Sheet.
Inhalation:	Remove affected persons from dangerous area by observing suitable respiratory Protection measures. Remove the casualty into fresh air and keep at rest. After intensive inhalation consult a doctor in every case, even if no symptoms occur.
Skin contact:	Take off immediately all contaminated clothing. Wash contaminated clothing before reusing. Do not allow the product to dry on the skin. Wash skin thoroughly with soap and water or use recognised skin cleanser. Consult a doctor in case of persisting skin irritation.
Eye contact:	Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Begin with medical treatment.
Ingestion:	If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting unless directed to do so by medical personnel. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

General information:	When inhaled or swallowed depending on the time and amount, it can give rise to the following symptoms: headaches, giddiness, tiredness, nausea, vomiting, irregular heart beat, intoxication, unconsciousness, asphyxiation and fatality.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician:	Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable:	Extinguishing measures to suit surroundings. In case of fire, use water spray jet, dry extinguishing powder, foam or carbon dioxide.
Not suitable:	water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion Products:	Fire will produce dense black smoke containing hazardous combustion products. In a fire, the following may be released: carbon dioxide, carbon monoxide, not combusted hydrocarbons.

5.3 Advice for firefighters

Special protective equipment for fire-fighters:	During fire-fighting wear self-contained breathing apparatus and protective clothing.

Additional information: The product is flammable. Use water spray to keep fire-exposed containers cool. Use extinguishing media suitable for surrounding materials. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

General information: To avoid fire, eliminate ignition sources. Provide adequate ventilation. Use personal protective equipment. Avoid contact with eyes, skin and clothing. Avoid breathing vapours, spray or mists.

6.2 Environmental precautions

General information: Do not discharge into the drains / surface waters / groundwater. Prevent spread over a wide area e.g. by containment or oil barriers.

6.3 Methods and material for containment and cleaning up

General information: Absorb with liquid-binding material (sand, diatomite, universal binders etc.) or use a spill kit. Containers in which spilt substance has been collected must be adequately labelled. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures: Keep away from sources of ignition - No smoking. Vapours may form explosive mixtures with air.
Take precautionary measures against electrostatic discharges. Provide good ventilation of working area. The working procedure should be planned as far as allowed by state-of-the-art technology so as to avoid release of hazardous substances or prevent skin contact. The level of risk involved in product handling must be reduced to a minimum by means of protective and preventive measures.

7.2 Conditions for safe storage, including any incompatibilities

General information: Store in a dry, cool and well-ventilated area. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. Store in accordance with local regulations.

German storage class: 10 - Combustible liquids neither in Storage Class 3

7.3 Specific end use(s)

See separate Product Data Sheet for recommendations or industrial sector specific solutions.

Bisdorf GmbH Lackfabrikation
Industriestr. 49–51
52224 Stolberg
Telefon: 02402/7 10 48
Fax: 02402/7 54 65

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Product/ingrediet name	CAS-Nr.	Nota -tion	Identi-fier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Source
xylene (mixture of isomers)	1330-20-7	skin	IOELV	50	221	100	442	2017/164/EU
ethylbenzene	100-41-4	skin	IOELV	100	442	200	884	2017/164/EU
solvent naphtha (petroleum), light arom.	64742-95-6		IOLEV	25	120			2017/164/EU
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	64742-48-9			25	125			AGCIH
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	64742-82-1	skin		100	300			OEL/EU
1-methoxy-2-propanol (PM)	107-98-2		IOLEV	100	375	150	568	2017/164/EU
titanium dioxide	13463-67-7	i	IOLEV		10		20	2017/164/EU
titanium dioxide	13463-67-7	r	IOLEV		1,25		2,4	2017/164/EU

Notation
i Inhalable fraction
STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified
r Respirable fraction
TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

DNELs/DMELs

Product/ingredient name		
xylene (mixture of isomers)		
Oral	DNEL (population)	1,6 mg/kg bw/day (Long-term - systemic effects)
Dermal	DNEL (worker)	180 mg/kg bw/day (Long-term - systemic effects)
	DNEL (population)	108 mg/kg bw/day (Long-term - systemic effects)
Inhalation	DNEL (worker)	77 mg/m³ (Long-term - systemic effects)
		289 mg/m³ (Acute - systemic and local effects)
	DNEL (population)	14,8 mg/m³ (Long-term - systemic effects)
		174 mg/m³ (Acute - systemic and local effects)

Product/ingredient name		
ethylbenzene		
Dermal	DNEL (worker)	180 mg/kg bw/day (Long-term - systemic effects)
Inhalation	DNEL (worker)	77 mg/m³ (Long-term - systemic effects)
		289 mg/m³ (Acute - systemic and local effects)

Bisdorf GmbH Lackfabrikation
Industriestr. 49–51
52224 Stolberg
Telefon: 02402 / 7 10 48
Fax: 02402 / 7 54 65

Product/ingredient name		
solvent naphtha (petroleum), light arom.		
Oral	DNEL (population)	11 mg/kg bw/day (Long-term - systemic effects)
Dermal	DNEL (worker)	25 mg/kg bw/day (Long-term - systemic effects)
	DNEL (population)	11 mg/kg bw/day (Long-term - systemic effects)
Inhalation	DNEL (worker)	150 mg/m³ (Long-term - systemic effects)
	DNEL (population)	32 mg/m³ (Long-term - systemic effects)

Product/ingredient name		
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics		
Oral	DNEL (population)	300 mg/kg bw/day (Long-term - systemic effects)
Dermal	DNEL (worker)	300 mg/kg bw/day (Long-term - systemic effects)
	DNEL (population)	300 mg/kg bw/day (Long-term - systemic effects)
Inhalation	DNEL (worker)	1500 mg/m³ (Long-term - systemic effects)
	DNEL (population)	900 mg/m³ (Long-term - systemic effects) (24 h)

Product/ingredient name		
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)		
Oral	DNEL (population)	26 mg/kg bw/day (Long-term - systemic effects)
Dermal	DNEL (worker)	44 mg/kg bw/day (Long-term - systemic effects)
	DNEL (population)	26 mg/kg bw/day (Long-term - systemic effects)
Inhalation	DNEL (worker)	330 mg/m³ (Long-term - systemic effects)
	DNEL (population)	71 mg/m³ (Long-term - systemic effects)

Product/ingredient name		
1-methoxy-2-propanol (PM)		
Oral	DNEL (population)	3,3 mg/kg bw/day (Long-term - systemic effects)
Dermal	DNEL (worker)	183 mg/kg bw/day (Long-term - systemic effects)
	DNEL (population)	78 mg/kg bw/day (Long-term - systemic effects)
Inhalation	DNEL (worker)	553,5 mg/m³ (Acute - local effects)
		369 mg/m³ (Long-term - systemic effects)
	DNEL (population)	43,9 mg/m³ (Long-term - systemic effects)

Product/ingredient name		
2-pentanone oxime		
Oral	DNEL (population)	0,125 mg/kg bw/day (Long-term - systemic effects)
		0,375 mg/kg bw/day (Short-term - systemic effects)
Dermal	DNEL (worker)	0,208 mg/kg bw/day (Long-term - systemic effects)
		0,624 mg/kg bw/day (Short-term - systemic effects)
	DNEL (population)	0,125 mg/kg bw/day (Long-term - systemic effects)
Inhalation	DNEL (worker)	24,9 mg/m³ (Acute - local effects)
		8,3 mg/m³ (Long-term - systemic effects)
	DNEL (population)	2,07 mg/m³ (Long-term - systemic effects)

Product/ingredient name		
titanium dioxide		
Inhalation	DNEL (worker)	10 mg/m³ Acute - local effects)
Oral	DNEL (population)	700 mg/kg bw/day (Long-term - systemic effects)

PNECs

Product/ingredient name	
xylene (mixture of isomers)	
PNEC aqua	0,327 mg/l (fresh water)
	0,327 mg/l (marine water)
PNEC	6,58 mg/l (STP (sewage treatment plant))
	2,31 mg/kg dw (soil)
PNEC sediment	12,46 mg/kg dw (fresh water)
	12,46 mg/kg dw (marine water)

Product/ingredient name	
ethylbenzole	
PNEC aqua	0,1 mg/l (fresh water)
	0,01 mg/l (marine water)
PNEC	6,58 mg/l (STP (sewage treatment plant))
	2,68 mg/kg dw (soil)
PNEC sediment	13,7 mg/kg dw (fresh water)
	1,37 mg/kg dw (marine water)

Product/ingredient name	
1-methoxy-2-propanol (PM)	
PNEC aqua	10 mg/l (fresh water)
	1 mg/l (marine water)
PNEC	100 mg/l (STP (sewage treatment plant))
	4,59 mg/kg dw (soil)
PNEC sediment	52,3 mg/kg dw (fresh water)
	5,2 mg/kg dw (marine water)

Product/ingredient name	
titanium dioxide	
PNEC aqua	0,127 mg/l (fresh water)
	>1 mg/l (marine water)
PNEC	>100 mg/l (STP (sewage treatment plant))
	>100 mg/kg dw (soil)
PNEC sediment	>100 mg/kg dw (fresh water)
	>1000 mg/kg dw (marine water)

(CAS 64742-95-6, 64742-48-9, 64742-82-1) - Substance is a hydrocarbon with a complex, unknown or variable composition. Conventional methods of deriving. PNECs are not appropriate and it is not possible to identify a single representative PNEC for such substances.

8.2 Exposure controls / personal protection

Engineering measures

Refer to protective measures listed in sections 7.

Personal protective equipment:

Respiratory protection Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If working areas have insufficient ventilation:

Bisdorf GmbH Lackfabrikation
Industriestr. 49 – 51
52224 Stolberg
Telefon: 02402 / 7 10 48
Fax: 02402 / 7 54 65

When the product is applied by means that will not generate an aerosol such as, brush or roller wear half or totally covering mask equipped with gas filter of type A, when grinding use particle filter of type P. Be sure to use approved/ certified respirator or equivalent.

Hand protection

If there is a potential for product skin contact, use of gloves tested to e.g. EN 374 will provide sufficient protection. Protective gloves should in any case be tested for workplace-specific suitability (e.g. mechanical resistance, product compatibility, antistatic properties).
Comply with instructions and information provided by the glove manufacturer concerning use, care and replacement of the gloves. Replace protective gloves immediately upon damage or at the first signs of wear. As far as possible, plan work procedures so that wearing gloves will not be necessary.

	Long term exposure	Short term exposure
Recommended gloves should be made of	Viton®	Nitril.
Material thickness	>0,7 mm	>0,4 mm
Permeation time	>480 min	>480 min

Eye protection Safety goggles with lateral shielding (DIN EN 166)

Body protection Usual working clothes for the chemical industry, suitable for the job.

Environmental exposure controls:
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance
Physical state: Fluid **Colour:** RAL- Colours

Odor: Characteristic

Odor threshold: Not relevant for the hazard classification of the product.

Security-relevant basic data

Parameter	
pH-value	Not applicable.
Melting point/Melting range	<-50 °C
Boiling point/Boiling range	135 °C
Flash point	~23-27 °C (IP 170 (ABEL))
Flammability (solid / gas)	Not applicable.
Ignition temperature	~460 ° C (lowest value of the individual components)
Decomposition temperature	Not determined.
Auto-ignition temperature	The product is not self-igniting.

Bisdorf GmbH Lackfabrikation
Industriestr. 49–51
52224 Stolberg
Telefon: 0241/27 10 48
Fax: 0241/27 54 65

Parameter	
Explosive properties	Product is not explosive. However, formation of explosive air/steam mixtures as possible.
Explosion limits Lower Upper Oxidizing properties	 1,1 %(Vol) 6,6 %(Vol) Not determined
Vapour pressure	10 hPa (20 °C)
Density	~1,28 g/cm³ (20 °C)
Vapor density	Not determined
Evaporation rate	No data available.
Solubility in Miscibility with water	Organic solvents (see point 3) 0.175 g/l
Partition coefficient: (n-octanol/water)	Testing not relevant or not possible due to nature of the product.
Viscosity (expiry time after DIN 53211) Dynamic: Kinematic:	 >200 s DIN 4mm (20°C)
Solvent separation test	< 3% (20°C)

9.2. Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity
General information: No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
General information: The product is stable.

10.3 Possibility of hazardous reactions
General information: Rubber and other synthetic material can be affected.

10.4 Conditions to avoid
General information: The product is flammable. Keep away from excessive heat, sparks or open fire.

10.5 Incompatible materials
General information: oxidising agents, acids

10.6 Hazardous decomposition products
General information: Thermal disintegration depends to a great extent on the external conditions. A complex mixture of solids, liquids and gases forms in the air, including among other substances carbon dioxide, carbon monoxide and other organic compounds, when this material is burnt or is thermally or oxidatively degraded.

Bisdorf GmbH Lackfabrikation
Industriestr. 49—51
52224 Stolberg
Telefon: 0 24 02 / 7 10 48
Fax: 0 24 02 / 7 54 65

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product/ingredient name	Result	Species	Dose	Exposure
xylene (mixture of isomers)	LC50 Inhalation Gas	Rat	5000 ppm	4 hours
	LC50 Inhalation Vapour	Rat	6350 ppm	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
ethylbenzene	LC50 Inhalation Vapour	Rat	17,2 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
solvent naphtha (petroleum), light arom.	LC50 Inhalation Vapour	Rat	>6153 mg/m³	4 hours
	LD50 Dermal	Rabbit	>3160 mg/kg	-
	LD50 Oral	Rat	8400 mg/kg	-
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	LC50 Inhalation Vapour	Rat	8000 mg/kg	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	LC50 Inhalation Vapour	Rat	13100 mg/l	4 hours
	LD50 Dermal	Rabbit	>3400 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
1-methoxy-2-propanol (PM)	LC50 Inhalation Vapour	Rat	10000 ppm	5 hours
	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	6600 mg/kg	-
2-pentanone oxime	LD50 Oral	Rat	1133 mg/kg	-
titanium dioxide	LC50 Inhalation Dusts and mists	Rat	3,43 - 5,09 mg/l	4 hours
	LD50 Dermal	Rabbit	>10 g/kg	-
	LD50 Oral	Rat	>24 g/kg	-

Acute toxicity estimates

Route	ATE-Value
Oral	not rated
Dermal	not rated
Inhalation (vapors)	not rated

Corrosion/Irritation

Product/ingredient name	Result	Species	Score	Exposure
xylene (mixture of isomers)	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams
ethylbenzene	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams
	Respiratory - Mild irritant	Rabbit	-	-
	Eyes - Mild irritant	Rabbit	-	-
solvent naphtha (petroleum), light arom.	Eyes - Mild irritant	Rabbit	-	24 hours 100 milligrams
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	No irritant (according to EU directives).			
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	May cause mild eye irritation.			
1-methoxy-2-propanol (PM)	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams
titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent

Bisdorf GmbH Lackfabrikation
Industriestr. 49–51
52224 Stolberg
Telefon: 0241/27 10 48
Fax: 0241/27 54 65

Sensitiser
Remarks
Skin**:** No evidence of sensitizing effects.
Respiratory: May cause respiratory irritation.

Mutagenicity
Remarks: No evidence of mutagenic effects.

Carcinogenicity
Remarks: No evidence of carcinogenic effects.

Reproductive toxicity
Remarks: No evidence that the substance is toxic for reproduction.

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
titanium dioxide	Negative	Negative	Negative	Rat - Male, Female	Oral: 100 bto 3001000 mg/kg	20 Days; 7 Days per Week

Teratogenicity
Remarks: No evidence that the substance may cause birth defects.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
xylene (mixture of isomers)	Category 3	Not applicable.	Respiratory tract Irritation
solvent naphtha (petroleum), light arom.	Category 3	Not applicable.	Narcotic effects
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Category 3	Not applicable.	Narcotic effects
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	Category 3	Not applicable.	Narcotic effects
1-methoxy-2-propanol (PM)	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
xylene (mixture of isomers)	Category 2	Not determined	Hearing organs
ethylbenzene	Category 2	Not determined	Hearing organs
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Category 1	Not determined	Not determined
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	Category 1	Inhalation	Central nervous system (CNS)

Aspiration hazard

Product/ingredient name	Result
xylene (mixture of isomers)	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1
solvent naphtha (petroleum), light arom.	ASPIRATION HAZARD - Category 1
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	ASPIRATION HAZARD - Category 1
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure
Routes of entry anticipated: Oral, Dermal, Inhalation.

Bisdorf GmbH Lackfabrikation
Industriestr. 49–51
52224 Stolberg
Telefon: 02402 / 7 10 48
Fax: 02402 / 7 54 65

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	Chronic NOAEL Oral Chronic NOAEL Inhalation Dusts and mists	Rat Rat	3500 mg/kg 10 mg/m³	- 24 hours

11.2 Endocrine disrupting properties
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.

11.3 Other hazards
The product is flammable. Keep away from excessive heat, sparks or open fire. In use, may form flammable/explosive vapourair mixture. Electrostatic charges may be generated during pumping, release of which may cause a fire. The vapour/gas is heavier than air and will spread along the ground. Vapour may travel a considerable distance to source of ignition and flash back. Aspiration hazard if swallowed. Can enter lungs and cause damage.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
xylene (mixture of isomers)	Acute EC50 3,82 mg/l	Daphnie - Daphnia magna	48 hours
	Acute EC50 4,7 mg/l	Algae- Pseudokirchneriella subcapitata	72 hours
	Acute LC50 7,6 mg/l	Fish - Oncorhynchus mykiss	96 hours
ethylbenzene	Acute EC50 2,4 mg/l	Daphnie - Daphnia magna	48 hours
	Acute EC50 4,6 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute LC50 7 mg/l	Fish - Oncorhynchus mykiss	96 hours
solvent naphtha (petroleum), light arom.	Acute EC50 3,2 mg/l	Daphnie - Daphnia magna	48 hours
	Acute EC50 19 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute LC50 9.22 mg/l	Fish - Oncorhynchus mykiss	96 hours
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Acute EC50 >1000 mg/l	Daphnie - Daphnia magna	48 hours
	Acute IC50 >1000 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute LC50 >1000 mg/l	Fish - Oncorhynchus mykiss	96 hours
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	Acute EC50 10-22 mg/l	Daphnie - Daphnia magna	48 hours
	Acute IC50 4,6-10 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute LC50 10-30 mg/l	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0,097 mg/l	Daphnie - Daphnia magna	21 days
1-methoxy-2-propanol (PM)	Acute EC50 23300 mg/l	Daphnie - Daphnia magna	48 hours
	Acute EC50 1000 mg/l	Algae - Pseudokirchneriella subcapitata	168 hours
	Acute LC50 350 mg/l	Fish - Leuciscus idus	96 hours
2-pentanone oxime	Acute EC50 >100 mg/l	Daphnie - Daphnia magna	48 hours
	Acute EC50 88 mg/l	Algae - Desmodesmus subspicatus	72 hours
	Acute LC50 >100 mg/l	Fish – Poecilia reticulata	96 hours
	NOEC/48 h >100 mg/l	Daphnie - Daphnia magna	
titanium dioxide	Acute LC50 3 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 6,5 mg/l Fresh water	Daphnia spec. - Daphnia pulex - Neonate	48 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours

Bisdorf GmbH Lackfabrikation

12.2 Persistence and degradability

Product/ingredient name	Result
xylene (mixture of isomers)	87,8 % - 28 days
ethylbenzene	>70 % - 28 days
solvent naphtha (petroleum), light arom.	78 % - 28 days
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	80 % - 28 days
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	74,7 % - 28 days

Product/ingredient name	Result
1-methoxy-2-propanol (PM)	96 % - 28 days
2-pentanone oxime	9% - 28 days

Remarks: The mixture is, according to the desired resistance, not readily biodegradable.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
titanium dioxide	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
xylene (mixture of isomers)	3.16	8.1 - 25.9	low
ethylbenzene	3.6	-	low
solvent naphtha (petroleum), light arom.	3.7 bis 4.5	10 - 2500	high
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	5 bis 6.7	-	high
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	3.7 bis 6.7	10 - 2500	high
1-methoxy-2-propanol (PM)	<1	-	low
2-pentanone oxime	No data available.	No data available.	yes
titanium dioxide	-	19-352	low

12.4 Mobility in soil

Soil/water partition coefficient (KOC): Not available.

12.5 Results of PBT and vPvB 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

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

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

The generation of waste should be avoided or minimised wherever possible. Residues of the product is listed as hazardous waste. Dispose of according to all state and local applicable regulations.

Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Spillage, remains, discarded clothes and similar should be discarded in a fireproof container.

European waste catalogue no. (EWC) is given below.
European waste catalogue (EWC): 08 01 11*

Packaging
The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

Transport may take place according to national regulation or ADR for transport by road, RID for transport by train, IMDG for transport by sea, IATA for transport by air.

	14.1 UN no.	14.2 Proper shipping name	14.3 Transport hazard class(es)		14.4 PG*	14.5 Env*	Additional information
ADR/RID Class	UN1263	PAINT	3		III	No.	**Tunnel code** (D/E)
IMDG Class	UN1263	PAINT	3		III	No.	**Emergency schedules** F-E, S-E
IATA Class	UN1263	Paint	3		III	No.	-

PG*.: Packing group Env.* : Environmental hazards

14.6 Special precautions for user
Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

SECTION 15: Regulatory information

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

EU Regulation

Regulation (EG) Nr. 1907/2006 (REACH)
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), with supplements.

Regulation (EG) Nr. 1272/2008 (CLP)
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures (CLP), with supplements.

EU Regulation (EC) No. 1907/2006 (REACH)
Annex XIV - List of substances subject to authorisation
Substances of very high concern

Substances mentioned on the so-called "candidate list of substances of very high concern (SVHC) for authorisation" published by the EChA are not intentionally added to this product. Therefore it is not expected, that these substances are present in amounts of ≥ 0,1% in this product.

Bisdorf GmbH Lackfabrikation
Industriestr. 49–51
52224 Stolberg
Telefon: 02402/7 10 48
Fax: 02402/7 54 65

National legislation (Germany)

Water hazard class: WGK 2 (Assessment by list): hazardous for water.

VOC: 407 g/l DIN ISO 11890 (Council Directive 1999/13/EC).

Information about limitation of use: Employment restrictions concerning young persons must be observed.

15.2 Chemical Safety Assessment
This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Abbreviations and acronyms:

Abbr.	Descriptions of used abbreviations
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
IOELV	indicative occupational exposure limit value
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	short-term exposure limit
TWA	time-weighted average
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative

Full text of classifications [CLP/GHS]:
Acute Tox. 4, H312 ACUTE TOXICITY (dermal) - Category 4
Acute Tox. 4, H332 ACUTE TOXICITY (inhalation) - Category 4
Aquatic Chronic 2, H411 LONG-TERM AQUATIC HAZARD - Category 2
Asp. Tox. 1, H304 ASPIRATION HAZARD - Category 1
Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Flam. Liq. 3, H225 FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1

Bisdorf GmbH Lackfabrikation
Industriestr. 49 – 51
52224 Stolberg
Telefon: 0241/27 10 48
Fax: 0241/27 54 65

STOT RE 2, H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT RE 2, H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 2
STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
STOT SE 3, H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	**Justification**
Flam. Liq. 3, H226	On basis of test data
Skin Irrit. 2, H315	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method

Notice to reader

The information contained in this safety data sheet is based on the present state of knowledge and EU and national legislation. It provides guidance on health, safety and environmental aspects for handling the product in a safe way and should not be construed as any guarantee of the technical preformance or suitability for particular applications. It is always the duty of the user/employer to ascertain that the work is planned and carried out in accordance with the national regulations.

Bisdorf GmbH Lackfabrikation
Industriestr. 49–51
52224 Stolberg
Telefon: 02402 / 10 48
Fax: 02402 / 54 65

solvent naphtha (petroleum), light arom.

Annex: Exposure scenario 1

- ***SECTION 1: Title section***
- ***Short title of the exposure scenario*** *Formulation & (re)packing of substances and mixtures (Industrial)*
- ***Sector of Use*** *SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites*
- ***Process category***

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC14 Tabletting, compression, extrusion, pelletisation, granulation
PROC15 Use as laboratory reagent

- ***Environmental release category*** *ERC2 Formulation into mixture*
- ***Description of the activities / processes covered in the Exposure Scenario***

Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

- ***SECTION 2: Conditions of use affecting exposure***

The usual precautionary measures should be adhered to in handling the chemicals.
- ***Duration and frequency*** *8hrs (full working shift).*
- ***Worker***

Frequency of use:
5 workdays/week.
- ***Environment*** *Do not allow contact to soil, surface water and ground water.*
- ***Physical parameters***
- ***Physical state***

Fluid
Vapour pressure: < 5 hPa (20 °C)
- ***Concentration of the substance in the mixture*** *Covers use of substance / product up to 100%*
- ***Used amount per time or activity***

Regional use tonnage (tonnes/year): 730, SU3
Annual site tonnage (tonnes/year): 730, SU3
Maximum daily site tonnage (kg/day): 7300, SU3
- ***Other operational conditions***

Continuous release.
Emissiondays /year: 100
Assumes use at not more than 20°C above ambient temperature (unless stated differently).
Assumes a good basic standard of occupational hygiene is implemented.
- ***Other operational conditions affecting environmental exposure***

Use only on hard ground.
Local freshwater dilution factor: 10
Local marine water dilution factor: 100
Release fraction to air from process (initial release prior to RMM) / wide dispersive use (regional only): 1 %.
Release fraction to wastewater from process (initial release prior to RMM) / wide dispersive use: 0.02 / - %.
Release fraction to soil from process (initial release prior to RMM) / wide dispersive use (regional only): 0.01 / - %.

Bisdorf GmbH Lackfabrikation
Industriestr. 49 – 51
52224 Stolberg
Telefon: 02402 / 10 48
Fax: 02402 / 54 65

- ***Other operational conditions affecting worker exposure***
Clean working place and equipment every day. Avoid splashing. Remove spilled product immediately.
- ***Other operational conditions affecting consumer exposure during the use of the product***
Not applicable.
- ***Risk management measures***
- ***Worker protection***
General exposures / Use (closed systems) PROC1 / PROC2 / PROC3:
General exposures / Use (open systems) PROC4:
Batch processes at elevated temperatures. Operation is carried out at elevated temperature (> 20°C above ambient temperature) PROC3:
Laboratory activities (PROC15):
Bulk transfer (PROC8a / 8b):
Mixing operations (open systems) PROC4/PROC5/PROC19:
Transfer from/pouring from containers (PROC8a,8b,9):
Equipment cleaning and maintenance (PROC 8a, 8b):
Material transfers Drum/batch transfers (Non-dedicated facility) PROC8b:
Material transfers Drum/batch transfers (dedicated facility) PROC8b:
No other specific measures identified.
Storage (PROC1 / PROC2):
Store substance within a closed system.
- ***Organisational protective measures***
Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.
- ***Technical protective measures***
Use product only in enclosed systems.
Ensure that suitable extractors are available on processing machines
Provide explosion-proof electrical equipment.
- ***Personal protective measures***
Do not inhale gases / fumes / aerosols.
Protective gloves.
Only use chemical-protective gloves with CE-labelling of category III.
Standard protective working clothes, chemical resistant safety-shoes or wellingtons. If skin contact is possible, wear impenetrable protective clothing.
- ***Measures for consumer protection*** *Not relevant for this Exposure Scenario.*
- ***Environmental protection measures***
- ***Air*** *Treat air emission to provide a typical removal efficiency of (%): 0*
- ***Water***
Sludge treatment: Incineration or in a landfill
Do not allow to reach sewage system.
Risk from environmental exposure is driven by freshwater sediment.
Prevent discharge of undissolved substance to or recover from onsite wastewater.
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): 93.6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/day): 310.000
Assumed domestic sewage treatment plant flow (m3/d): 2000
- ***Soil*** *Prevent contamination of soil.*
- ***Disposal measures***
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.
- ***Disposal procedures***
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- ***Waste type*** *Partially emptied and uncleaned packaging*

Bisdorf GmbH Lackfabrikation
Industriestr. 49 – 51
52224 Stolberg
Telefon: 02402 / 710 48
Fax: 02402 / 75485

- ***SECTION 3: Exposure estimation***
- ***Worker (oral)*** *No significant oral exposure.*
- ***Worker (dermal)*** *The calculated value is smaller than the DNEL.*
- ***Worker (inhalation)*** *The calculated value is smaller than the DNEL.*
- ***Consumer*** *Not relevant for this Exposure Scenario.*

- ***SECTION 4: Guidance for downstream users***

The exposure estimation was carried out in accordance with ECETOC TRA.
Version 3. http://www.ecetoc.org/tra
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/ Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/ Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Annex: Exposure scenario 2

- ***SECTION 1: Title section***
- ***Short title of the exposure scenario***
Uses in Coatings - Industrial
Uses in Coatings - Professional
- ***Sector of Use***
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- ***Process category***
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC7 Industrial spraying
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC10 Roller application or brushing
PROC11 Non industrial spraying
PROC13 Treatment of articles by dipping and pouring
PROC14 Tabletting, compression, extrusion, pelletisation, granulation
PROC15 Use as laboratory reagent
PROC19 Manual activities involving hand contact
- ***Environmental release category***
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
- ***Description of the activities / processes covered in the Exposure Scenario***
Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.

- ***SECTION 2: Conditions of use affecting exposure***
The usual precautionary measures should be adhered to in handling the chemicals.
- ***Duration and frequency*** *8hrs (full working shift).*
- ***Worker***
Frequency of use:
5 workdays/week.
- ***Environment*** *Avoid contact to soil and / or ground water during application*
- ***Physical parameters***
- ***Physical state*** *Fluid*
- ***Concentration of the substance in the mixture*** *Covers use of substance / product up to 100%*
- ***Used amount per time or activity***
Regional use tonnage (tonnes/year): 7600, SU3
Annual site tonnage (tonnes/year): 7600, SU3
Maximum daily site tonnage (kg/day): 25000, SU3

Regional use tonnage (tonnes/year): 2200, SU22
Annual site tonnage (tonnes/year): 1.1, SU22
Maximum daily site tonnage (kg/day): 3.0, SU22
*- **Other operational conditions***
Continuous release.
Emissiondays /year: 300 (SU3) / 365 (SU22)
Assumes use at not more than 20°C above ambient temperature (unless stated differently).
Assumes a good basic standard of occupational hygiene is implemented.
*- **Other operational conditions affecting environmental exposure***
Local freshwater dilution factor: 10
Local marine water dilution factor: 100
Release fraction to air from process (initial release prior to RMM) / wide dispersive use (regional only): 98 / 98 %.
Release fraction to wastewater from process (initial release prior to RMM) / wide dispersive use: 0.07 / 1 %.
Release fraction to soil from process (initial release prior to RMM) / wide dispersive use (regional only): 0 / 1 %.
*- **Other operational conditions affecting worker exposure***
Clean working place and equipment every day. Avoid splashing. Remove spilled product immediately.
*- **Other operational conditions affecting consumer exposure during the use of the product***
Not applicable.
*- **Risk management measures***
*- **Worker protection***
General exposures / Use (closed systems) PROC1 / PROC2 / PROC3:
Film formation - force drying, stoving and other technologies (closed systems).
Operation is carried out at elevated temperature (> 20°C above ambient temperature) PROC2:
Production or preparation or articles by tabletting, compression, extrusion or pelletisation (PROC14):
Equipment cleaning and maintenance (Non-dedicated facility) PROC 8a:
Laboratory activities (PROC15):
No other specific measures identified.
Preparation of material for application Outdoor (PROC 5):
Roller, spreader, flow application Outdoor (PROC 10):
Film formation - air drying Outdoors (PROC 4):
Dipping, immersion and pouring Outdoor (PROC 13):
Ensure operation is undertaken outdoors.
Avoid carrying out activities involving exposure for more than 1 hour(s).
Preparation of material for application (PROC5):
Roller, spreader, flow application Indoor (PROC 10):
Film formation - air drying Indoor (PROC4):
Dipping, immersion and pouring Indoor (PROC 13):
Provide a good standard of general ventilation (10 to 15 air changes per hour).
Controlled ventilation means air is supplied or removed by a powered fan.
Avoid carrying out activities involving exposure for more than 1 hour(s).
Spraying PROC7:
Wear a respirator conforming to EN140 with Type A filter or better.
Spraying (automatic/robotic) PROC7:
Carry out in a vented booth or extracted enclosure.
Manual Spraying Indoor (PROC11) bis 100%:
Carry out in a vented booth or extracted enclosure.
Or: wear a full face respirator conforming to EN136 with Type A/P2 filter or better.
Manual Spraying Outdoor (PROC11) bis 50%:
Ensure operation is undertaken outdoors.
Avoid carrying out activities involving exposure for more than 4 hour(s).

Limit the substance content in the product to 50%.
Storage (PROC1 / PROC2):
Store substance within a closed system.
- ***Organisational protective measures***
Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.
- ***Technical protective measures***
Provide explosion-proof electrical equipment.
Ensure that suitable extractors are available on processing machines
- ***Personal protective measures***
Do not inhale gases / fumes / aerosols.
Solvent resistant gloves
Standard protective working clothes, chemical resistant safety-shoes or wellingtons. If skin contact is possible, wear impenetrable protective clothing.
- ***Measures for consumer protection*** *Not relevant for this Exposure Scenario.*
- ***Environmental protection measures***
- ***Air*** *Treat air emission to provide a typical removal efficiency of (%): 90 / 0*
- ***Water***
Sludge treatment: Incineration or in a landfill
Risk from environmental exposure is driven by freshwater sediment.
Prevent discharge of undissolved substance to or recover from onsite wastewater.
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): 93.6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/day): 88000 (SU3) / 4700 (SU22)
Assumed domestic sewage treatment plant flow (m3/d): 2000
- ***Soil*** *Use bunds or dykes around storage facilities to prevent soil and water pollution in the event of a spill.*
- ***Disposal measures***
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.
- ***Disposal procedures***
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- ***Waste type*** *Partially emptied and uncleaned packaging*

- ***SECTION 3: Exposure estimation***
- ***Worker (oral)*** *No significant oral exposure.*
- ***Worker (dermal)*** *The calculated value is smaller than the DNEL.*
- ***Worker (inhalation)*** *The calculated value is smaller than the DNEL.*
- ***Environment*** *The calculated value is smaller than the PNEC.*
- ***Consumer*** *Not relevant for this Exposure Scenario.*

- ***SECTION 4: Guidance for downstream users***
The exposure estimation was carried out in accordance with ECETOC TRA.
Version 3. http://www.ecetoc.org/tra
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/ Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/ Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.