SAFETY DATA SHEET

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

1.1 Product identifier

Product name : ZINC CLAD J984BS Epoxy Zinc Rich Primer - Base

Product code : J984BSB

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

Material uses : Paint or paint related material.

: Industrial use only.

1.3 Details of the supplier of the safety data sheet

Sherwin-Williams UK Limited - Protective & Marine
Coatings Division EMEAI
Tower Works
Kestor Street
Bolton
BL2 2AL
United Kingdom
+44 (0) 1204 521771

The Sherwin-Williams Company
Inver France SAS
2 Rue Jean Revaus - BP 80088 - 79102
Thouars CEDEX
France

e-mail address of person responsible for this SDS : hse.pm.emea@sherwin.com

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : +385 1 2348 342

Supplier

Telephone number : +(44)-870-8200 418

Hours of operation : Emergency contact available 24 hours a day

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Flam. Liq. 3, H226
Skin Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1, H317
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

SECTION 2: Hazards identification

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

2.2 Label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Flammable liquid and vapor.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment. Avoid breathing vapor. Wash thoroughly after handling.

Response : Collect spillage.

Storage : Not applicable.

Disposal : Not applicable.

Hazardous ingredients : xylene
formaldehyde

Supplemental label elements : Contains epoxy constituents. May produce an allergic reaction. FOR INDUSTRIAL USE ONLY

Special packaging requirements

Not applicable.

2.3 Other hazards

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
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.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixture :

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Zinc Powder	REACH #: 01-2119467174-37 EC: 231-175-3 CAS: 7440-66-6 Index: 030-001-01-9	≥75 - ≤90	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
Xylene, mixed isomers	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	<10	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	ATE [Dermal] = 1100 mg/kg ATE [Inhalation (gases)] = 6700 ppm	[1] [2]

SECTION 3: Composition/information on ingredients

Epoxy Polymer	CAS: 25036-25-3	≤5	STOT RE 2, H373 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	-	[1]
Zinc Oxide	REACH #: 01-2119463881-32 EC: 215-222-5 CAS: 1314-13-2 Index: 030-013-00-7	≤5	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
1-Methoxy-2-propanol	EC: 203-539-1 CAS: 107-98-2 Index: 603-064-00-3	≤3	Flam. Liq. 3, H226 STOT SE 3, H336	-	[1] [2]
Butylated Urea-Formaldehyde Polymer	CAS: 68002-19-7	≤3	Aquatic Chronic 4, H413	-	[1]
Ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≤3	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304 Aquatic Chronic 3, H412	ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
Formaldehyde (max.)	REACH #: 01-2119488953-20 EC: 200-001-8 CAS: 50-00-0 Index: 605-001-00-5	<0.1	Flam. Liq. 2, H225 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 **See Section 16 for the full text of the H statements declared above.**	ATE [Oral] = 100 mg/kg ATE [Dermal] = 270 mg/kg ATE [Inhalation (gases)] = 700 ppm Skin Corr. 1B, H314: C ≥ 25% Skin Irrit. 2, H315: 5% ≤ C < 25% Eye Dam. 1, H318: C ≥ 25% Eye Irrit. 2, H319: 5% ≤ C < 25% Skin Sens. 1, H317: C ≥ 0.2%	[1] [2]

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, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

SECTION 4: First aid measures

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

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

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, 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 mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.
If splashed in the eyes, the liquid may cause irritation and reversible damage.
Ingestion may cause nausea, diarrhea and vomiting.
This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Based on the properties of the epoxy constituent(s) and considering toxicological data on similar mixtures, this mixture may be a skin sensitizer and an irritant. It contains low-molecular weight epoxy constituents which are irritating to eyes, mucous membranes and skin. Repeated skin contact may lead to irritation and to sensitization, possibly with cross-sensitization to other epoxies. Skin contact with the mixture and exposure to spray, mist and vapors should be avoided.

Contains Epoxy Polymer. May produce an allergic reaction.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

See toxicological information (Section 11)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Recommended: alcohol-resistant foam, CO_2, powders, water spray or mist.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

SECTION 5: Firefighting measures

Hazardous combustion products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

5.3 Advice for firefighters

Special protective actions for fire-fighters : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

Special protective equipment for fire-fighters : Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Exclude sources of ignition and ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8.

Keep unnecessary and unprotected personnel from entering.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and materials for containment and cleaning up : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Preferably clean with a detergent. Avoid using solvents.

6.4 Reference to other sections : 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

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling : Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits.
In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.
Mixture may charge electrostatically: always use earthing leads when transferring from one container to another.
Operators should wear antistatic footwear and clothing and floors should be of the conducting type.
Keep away from heat, sparks and flame. No sparking tools should be used.
Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Put on appropriate personal protective equipment (see Section 8).
Never use pressure to empty. Container is not a pressure vessel.
Always keep in containers made from the same material as the original one.
Comply with the health and safety at work laws.
Do not allow to enter drains or watercourses.
Information on fire and explosion protection
Vapors are heavier than air and may spread along floors. Vapors may form

SECTION 7: Handling and storage

explosive mixtures with air.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapors in all cases. In such circumstances, they should wear a compressed-air-fed respirator during the spraying process and until the particulate and solvent vapor concentrations have fallen below the exposure limits.

7.2 Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations.

Notes on joint storage

Keep away from: oxidizing agents, strong alkalis, strong acids.

Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking. Prevent unauthorized access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Contaminated absorbent material may pose the same hazard as the spilled product.

Store in closed original container at temperatures between 5°C and 25°C.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

Good housekeeping standards, regular safe removal of waste materials and regular maintenance of spray booth filters will minimise the risks of spontaneous combustion and other fire hazards.

Before use of this material please refer to the Exposure Scenario(s) if attached for the specific end use, control measures and additional PPE considerations.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Xylene, mixed isomers	**Ministry of Economy, Labour and Entrepreneurship ELV/ STELV (Croatia, 1/2021). [xylene (all isomers)] Absorbed through skin.** STELV: 442 mg/m³ 15 minutes. STELV: 100 ppm 15 minutes. ELV: 221 mg/m³ 8 hours. ELV: 50 ppm 8 hours.
1-Methoxy-2-propanol	**Ministry of Economy, Labour and Entrepreneurship ELV/ STELV (Croatia, 1/2021).** STELV: 568 mg/m³ 15 minutes. STELV: 150 ppm 15 minutes. ELV: 375 mg/m³ 8 hours. ELV: 100 ppm 8 hours.
Ethylbenzene	**Ministry of Economy, Labour and Entrepreneurship ELV/ STELV (Croatia, 1/2021). Absorbed through skin.** STELV: 884 mg/m³ 15 minutes. STELV: 200 ppm 15 minutes. ELV: 442 mg/m³ 8 hours. ELV: 100 ppm 8 hours.

SECTION 8: Exposure controls/personal protection

Formaldehyde (max.)	**Ministry of Economy, Labour and Entrepreneurship ELV/ STELV (Croatia, 1/2021). Skin sensitizer.** ELV: 0.62 mg/m³ 8 hours. Form: health and funeral sector and embalming sector ELV: 0.5 ppm 8 hours. Form: health and funeral sector and embalming sector STELV: 0.74 mg/m³ 15 minutes. STELV: 0.6 ppm 15 minutes.

Biological exposure indices

Product/ingredient name	Exposure indices
xylene	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, exposure limit values and biological limit values (Croatia, 10/2018) [xylene]** BEI: 1.5 mg/l, xylene [in blood]. Sampling time: at the end of the work shift. BEI: 14.13 µmol/l, xylene [in blood]. Sampling time: at the end of the work shift. BEI: 0.88 mol/mol creatinine, methylhippuric acid [in urine]. Sampling time: at the end of the work shift. BEI: 1.5 g/g creatinine, methylhippuric acid [in urine]. Sampling time: at the end of the work shift.
ethylbenzene	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, exposure limit values and biological limit values (Croatia, 10/2018)** BEI: 1.5 mg/l, ethylbenzene [in blood]. Sampling time: during exposure. BEI: 14.1 µmol/l, ethylbenzene [in blood]. Sampling time: during exposure. BEI: 1.12 mol/mol creatinine, almond acid [in urine]. Sampling time: at the end of the work shift and at the end of the working week. BEI: 1.5 g/g creatinine, almond acid [in urine]. Sampling time: at the end of the work shift and at the end of the working week.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

: Regular monitoring of all work areas should be carried out at all times, including areas that may not be equally ventilated.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Zinc Powder	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	5 mg/m³	Workers	Systemic
	DNEL	Long term Oral	0.83 mg/ kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	2.5 mg/m³	General population	Systemic
	DNEL	Long term Dermal	83 mg/kg	General	Systemic

SECTION 8: Exposure controls/personal protection

			bw/day	population	
Xylene, mixed isomers	DNEL	Long term Dermal	212 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	125 mg/kg	General population	Systemic
	DNEL	Long term Inhalation	221 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	289 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	442 mg/m³	Workers	Local
	DNEL	Long term Inhalation	65.3 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	260 mg/m³	General population	Local
	DNEL	Short term Inhalation	174 mg/m³	General population	Systemic
	DNEL	Long term Oral	1.5 mg/kg	General population	Systemic
Zinc Oxide	DNEL	Long term Inhalation	5 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	0.5 mg/m³	Workers	Local
	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	2.5 mg/m³	General population	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0.83 mg/kg bw/day	General population	Systemic
1-Methoxy-2-propanol	DNEL	Short term Inhalation	553.5 mg/m³	Workers	Local
	DNEL	Long term Inhalation	369 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	183 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	43.9 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Dermal	78 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Oral	33 mg/kg bw/day	General population [Consumers]	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Zinc Powder	Fresh water	20.6 µg/l	-
	Marine water	6.1 µg/l	-
	Fresh water sediment	117.8 mg/kg dwt	-
	Marine water sediment	56.5 mg/kg dwt	-
	Soil	35.6 mg/kg dwt	-
	Sewage Treatment Plant	100 µg/l	-
Zinc Oxide	Fresh water	0.0206 mg/l	-
	Marine water	0.0061 mg/l	-
	Sewage Treatment Plant	0.1 mg/l	-
	Fresh water sediment	117.8 mg/kg dwt	-

SECTION 8: Exposure controls/personal protection

1-Methoxy-2-propanol	Marine water sediment	56.5 mg/kg dwt	-
	Soil	35.6 mg/kg dwt	-
	Fresh water	10 mg/l	-
	Fresh water sediment	52.3 mg/kg	-
	Marine water sediment	5.2 mg/kg	-
	Soil	4.59 mg/kg	-
	Sewage Treatment Plant	100 mg/l	-

8.2 Exposure controls

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn.

: Users are advised to consider national Occupational Exposure Limits or other equivalent values.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Use safety eyewear designed to protect against splash of liquids.

Skin protection

Hand protection : Wear suitable gloves tested to EN374.

Gloves : Gloves for short term exposure/splash protection (less than 10 min.): Nitrile>0.12 mm
Gloves for splash protection need to be changed immediately when in contact with chemicals.
Gloves for repeated or prolonged exposure (breakthrough time > 240 min.)
When the hazardous ingredients in Section 3 contain any of the following: Aromatic solvents (Xylene, Toluene) or Aliphatic solvents or Mineral Oil use: Polyvinyl alcohol (PVA) gloves 0.2-0.3 mm
Otherwise use: Butyl gloves >0.3 mm
For long term exposure or spills (breakthrough time >480 min.): Use PE laminated gloves as under gloves
Due to many conditions (e.g. temperature, abrasion) the practical usage of a chemical protective glove in practice may be much shorter than the permeation time determined through testing.
The recommendation for the type or types of glove to use when handling this product is based on information from the following source: Solvent resin manufacturers and European Solvents Industry Group (ESIG)

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

SECTION 8: Exposure controls/personal protection

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Body protection : Personnel should wear antistatic clothing made of natural fibers or of high-temperature-resistant synthetic fibers.

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Recommended: A2P2 (EN14387). 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.

Environmental exposure controls : Do not allow to enter drains or watercourses.

Before use of this material please refer to the Exposure Scenario(s) if attached for the specific end use, control measures and additional PPE considerations. The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Color : Gray.

Odor : Paint

Odor threshold : Not Available (Not Tested).

pH : Not relevant/applicable due to nature of the product.
insoluble in water.

Melting point/freezing point : Not relevant/applicable due to nature of the product.

Initial boiling point and boiling range : 120°C

Flash point : Closed cup: 23°C [Pensky-Martens Closed Cup]

Evaporation rate : 0.8 (butyl acetate = 1)

Flammability : Flammable liquid.

Lower and upper explosion limit : LEL: 1% (Xylene, mixed isomers)
UEL: 13.74% (1-Methoxy-2-propanol)

Vapor pressure : 1.5 kPa (10.9 mm Hg)

Relative vapor density : 3.1 [Air = 1]

Relative density : 3.5

Solubility(ies) :

SECTION 9: Physical and chemical properties

Media	Result
cold water	Not soluble

Partition coefficient: n-octanol/ water : Not relevant/applicable due to nature of the product.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
1-Methoxy-2-propanol	286	546.8	

Decomposition temperature : Not relevant/applicable due to nature of the product.

Viscosity : Kinematic (40°C): >20.5 mm^2/s

Explosive properties : Under normal conditions of storage and use, hazardous reactions will not occur.

Oxidizing properties : Under normal conditions of storage and use, hazardous reactions will not occur.

Particle characteristics

Median particle size : Not relevant/applicable due to nature of the product.

9.2 Other information

Heat of combustion : 2.811 kJ/g

SECTION 10: Stability and reactivity

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

10.2 Chemical stability : Stable under recommended storage and handling conditions (see Section 7).

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.

10.5 Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

10.6 Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

SECTION 11: Toxicological information

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

There are no data available on the mixture itself. Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, 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 mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.
If splashed in the eyes, the liquid may cause irritation and reversible damage.
Ingestion may cause nausea, diarrhea and vomiting.

SECTION 11: Toxicological information

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Based on the properties of the epoxy constituent(s) and considering toxicological data on similar mixtures, this mixture may be a skin sensitizer and an irritant. It contains low-molecular weight epoxy constituents which are irritating to eyes, mucous membranes and skin. Repeated skin contact may lead to irritation and to sensitization, possibly with cross-sensitization to other epoxies. Skin contact with the mixture and exposure to spray, mist and vapors should be avoided.

Contains Epoxy Polymer. May produce an allergic reaction.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Xylene, mixed isomers	LC50 Inhalation Gas.	Rat	6700 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
1-Methoxy-2-propanol	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	6600 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
Formaldehyde (max.)	LC50 Inhalation Gas.	Rat	250 ppm	4 hours
	LD50 Dermal	Rabbit	270 mg/kg	-
	LD50 Oral	Rat	100 mg/kg	-

Acute toxicity estimates

Route	ATE value
Dermal	17936.8 mg/kg
Inhalation (gases)	109251.4 ppm
Inhalation (vapors)	1013.64 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Zinc Powder	Skin - Mild irritant	Human	-	72 hours 300 ug l	-
Xylene, mixed isomers	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Zinc Oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
1-Methoxy-2-propanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-
Formaldehyde (max.)	Eyes - Mild irritant	Human	-	6 minutes 1 ppm	-
	Eyes - Severe irritant	Rabbit	-	24 hours 750	-

SECTION 11: Toxicological information

				ug	
	Eyes - Severe irritant	Rabbit	-	750 ug	-
	Skin - Mild irritant	Human	-	72 hours 150 ug l	-
	Skin - Mild irritant	Rabbit	-	540 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 50 mg	-
	Skin - Severe irritant	Human	-	0.01 %	-
	Skin - Severe irritant	Rabbit	-	0.8 %	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 mg	-

Conclusion/Summary **:** Not available.

Sensitization

No data available

Conclusion/Summary **:** Not available.

Mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Xylene, mixed isomers	Category 3	-	Respiratory tract irritation
1-Methoxy-2-propanol	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Xylene, mixed isomers	Category 2	-	-
Ethylbenzene	Category 2	-	hearing organs

Aspiration hazard

Product/ingredient name	Result
Xylene, mixed isomers	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]. See Sections 2 and 3 for details.

Product/ingredient name	Result	Species	Exposure
Zinc Powder	Acute EC50 10000 µg/l Fresh water	Aquatic plants - *Lemna minor*	4 days
	Acute EC50 34 µg/l Fresh water	Crustaceans - *Ceriodaphnia dubia* - Neonate	48 hours
	Acute IC50 65 µg/l Marine water	Algae - *Nitzschia closterium* - Exponential growth phase	4 days
	Acute LC50 68 µg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 12.21 µg/l Marine water	Fish - *Periophthalmus waltoni* - Adult	96 hours
	Chronic EC10 6.3 µg/l	Daphnia - *Daphnia magna* - Neonate	21 days
	Chronic NOEC 0.25 mg/l Marine water	Algae - *Ulva pertusa*	96 hours
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - *Ceratophyllum demersum*	3 days
	Chronic NOEC 178 µg/l Marine water	Crustaceans - *Palaemon elegans*	21 days
	Chronic NOEC 2.6 µg/l Fresh water	Fish - *Cyprinus carpio*	4 weeks
Xylene, mixed isomers	Acute LC50 8500 µg/l Marine water	Crustaceans - *Palaemonetes pugio*	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - *Pimephales promelas*	96 hours
Zinc Oxide	Acute IC50 1.85 mg/l Marine water	Algae - *Skeletonema costatum*	96 hours
	Acute LC50 98 µg/l Fresh water	Daphnia - *Daphnia magna* - Neonate	48 hours
	Acute LC50 1.1 ppm Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
Ethylbenzene	Acute EC50 4900 µg/l Marine water	Algae - *Skeletonema costatum*	72 hours
	Acute EC50 7700 µg/l Marine water	Algae - *Skeletonema costatum*	96 hours
	Acute EC50 6.53 mg/l Marine water	Crustaceans - *Artemia sp.* - Nauplii	48 hours
	Acute EC50 2.93 mg/l Fresh water	Daphnia - *Daphnia magna* - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
Formaldehyde (max.)	Acute EC50 3.48 mg/l Fresh water	Algae - *Desmodesmus subspicatus*	72 hours
	Acute EC50 0.442 mg/l Marine water	Algae - *Ulva pertusa*	96 hours
	Acute EC50 3.26 mg/l Fresh water	Daphnia - *Daphnia magna* - Embryo	48 hours
	Acute LC50 11.41 mg/l Fresh water	Crustaceans - *Ceriodaphnia dubia*	48 hours
	Acute LC50 1.41 ppm Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
	Chronic NOEC 1000 µg/l Marine water	Algae - *Phyllospora comosa* - Embryo	96 hours
	Chronic NOEC 3000 ppm Fresh water	Crustaceans - *Astacus astacus* - Egg	21 days
	Chronic NOEC 1.56 mg/l Fresh water	Fish - *Oreochromis niloticus* - Fingerling	12 weeks

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
No data available				

Conclusion/Summary : Not available.

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Xylene, mixed isomers	-	-	Readily
Ethylbenzene	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene, mixed isomers	-	8.1 to 25.9	Low
Zinc Oxide	-	28960	High

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

European waste catalogue (EWC) : waste paint and varnish containing organic solvents or other hazardous substances
08 01 11*

Disposal considerations : Do not allow to enter drains or watercourses.
Dispose of according to all federal, state and local applicable regulations.
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information, contact your local waste authority.

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Disposal considerations : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.

SECTION 13: Disposal considerations

European waste catalogue (EWC) : packaging containing residues of or contaminated by hazardous substances 15 01 10*

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT	PAINT. Marine pollutant (Zinc Powder, Zinc Oxide)	PAINT
14.3 Transport Hazard Class(es)/ Label(s)	3	3	3
14.4 Packing group	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Tunnel code** D/E	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules** F-E, S-E	The environmentally hazardous substance mark may appear if required by other transportation regulations.

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 Maritime transport in bulk according to IMO instruments : Not applicable.

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
ZINC CLAD J984BS Epoxy Zinc Rich Primer - Base	≥90	3
formaldehyde	<0.1	72
toluene	≤0.1	48
4,4'-isopropylidenediphenol	<0.01	66

Labeling : Not applicable.

Other EU regulations

VOC content ***(2010/75/EU)*** : 9.7 **w/w**
342 **g/l**

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Industrial emissions (integrated pollution prevention and control) - Water : Listed

Explosive precursors : Not applicable.

Seveso Directive

This product may add to the calculation for determining whether a site is within the scope of the Seveso Directive on major accident hazards.

National regulations

Product/ingredient name	*List name*	*Name on list*	*Classification*	*Notes*
Formaldehyde (max.)	Croatia Occupational Exposure Limits	formaldehid	Carc. 1B	-

15.2 Chemical Safety Assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative
N/A = Not available

SECTION 16: Other information

Key literature references and sources for data : Regulation (EC) No. 1272/2008 [CLP]
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878
Directive 2012/18/EU, and relative amendments & additions
Directive 2008/98/EC, and relative amendments & additions
Directive 2009/161/EU, and relative amendments & additions
CEPE Guidelines

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
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

Full text of abbreviated H statements :

H225	Highly flammable liquid and vapor.
H226	Flammable liquid and vapor.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Full text of classifications [CLP/GHS] :

Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	AQUATIC HAZARD (ACUTE) - Category 1
Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM) - Category 1
Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM) - Category 3
Aquatic Chronic 4	AQUATIC HAZARD (LONG-TERM) - Category 4
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 1B	CARCINOGENICITY - Category 1B
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Muta. 2	GERM CELL MUTAGENICITY - Category 2
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2

SECTION 16: Other information

Skin Sens. 1	SKIN SENSITIZATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3

Date of printing : 21, Jan, 2024.

Date of issue/ Date of revision : 21, Jan, 2024

Date of previous issue : 03, Jan, 2024

: If there is no previous validation date please contact your supplier for more information.

Version : 10.04

Notice to reader

In accordance with Regulation (EC) 1907/2006, REACH Regulation, Articles 31, 37, any required hazard-related information on the use of substances received as downstream user will be sent forward. Consequently, the safety data sheets for some products will contain a SUMI - Safe Use of Mixture Information - attached to the safety data sheet.

SUMI(s) will be added to the SDS for products if both the following conditions are met:

• The product is classified as hazardous for health
• The product contains one or more REACH-registered substances for which extended safety data sheets (exposure scenarios) have been provided

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SUMI
Safe Use of Mixtures
Information for end-users

Title : Industrial application of coatings and inks by other than spraying-Local exhaust ventilation

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet, Technical Data sheet and labels.

General description of the process covered

Paint application on industrial line by brush, roller, dipping, spreading, coil, fluidized bed or curtain coating (local exhaust ventilation only)

Operational conditions

Place of use : Indoor use

Risk management measures (RMM)

Contributing activity	Process category (ies)	Maximum duration	Ventilation	
			Type	ach (air changes per hour)
Preparation of material for application	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Loading of application equipment and handling of coated parts before curing	PROC08b	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Industrial application of coatings and inks by other than spraying	PROC10, PROC13	More than 4 hours	Local exhaust ventilation	Refer to relevant technical standards
Film formation - force drying, stoving and other technologies	PROC04	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Cleaning	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Waste management	PROC08b	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10

Contributing activity	Process category (ies)	Respiratory	Eye	Hands
Preparation of material for application	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Loading of application equipment and handling of coated parts before curing	PROC08b	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Industrial application of coatings and inks by other than spraying	PROC10, PROC13	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Film formation - force drying, stoving and other technologies	PROC04	None	None	None
Cleaning	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Waste management	PROC08b	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.

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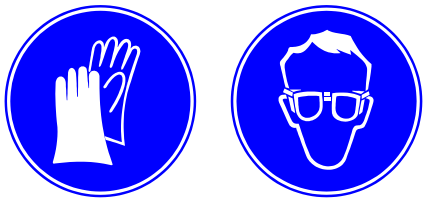
See chapter 8 of this Safety Data Sheet for specifications.



Disclaimer

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No liability is accepted for any damage, no matter of what kind, which is direct or indirect consequence of acts and/or decisions (partly) based on the contents of this document.

SUMI
Safe Use of Mixtures
Information for end-users

Title : Industrial spray painting, enclosed

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet, Technical Data sheet and labels.

General description of the process covered

Paint application on industrial line with fully-enclosed spraying

Operational conditions

Place of use : Indoor use

Risk management measures (RMM)

Contributing activity	Process category (ies)	Maximum duration	Ventilation	
			Type	ach (air changes per hour)
Preparation of material for application	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Loading of application equipment and handling of coated parts before curing	PROC08b	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Industrial application of coatings and inks by spraying	PROC07	More than 4 hours	Full containment/extraction	100 or equivalent
Film formation - force drying, stoving and other technologies	PROC02	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Cleaning	PROC05	More than 4 hours	Local exhaust ventilation	Refer to relevant technical standards
Application equipment cleaning outside booth	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Waste management	PROC08b	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10

Contributing activity	Process category (ies)	Respiratory	Eye	Hands
Preparation of material for application	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Loading of application equipment and handling of coated parts before curing	PROC08b	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Industrial application of coatings and inks by spraying	PROC07	None	None	None
Film formation - force drying, stoving and other technologies	PROC02	None	None	None
Cleaning	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Application equipment cleaning outside booth	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.

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Waste management	PROC08b	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.

See chapter 8 of this Safety Data Sheet for specifications.

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SUMI
Safe Use of Mixtures
Information for end-users

Title : Industrial application of coatings and inks by other than spraying-Enclosed

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet, Technical Data sheet and labels.

General description of the process covered

Paint application on industrial line by brush, roller, dipping, spreading, coil, fluidized bed or curtain coating (enclosed application)

Operational conditions

Place of use : Indoor use

Risk management measures (RMM)

Contributing activity	Process category (ies)	Maximum duration	Ventilation	
			Type	ach (air changes per hour)
Preparation of material for application	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Loading of application equipment and handling of coated parts before curing	PROC08b	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Industrial application of coatings and inks by other than spraying	PROC10, PROC13	More than 4 hours	Local exhaust ventilation	Refer to relevant technical standards
Film formation - force drying, stoving and other technologies	PROC02	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Cleaning	PROC05	More than 4 hours	Local exhaust ventilation	Refer to relevant technical standards
Application equipment cleaning outside booth	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Waste management	PROC08b	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10

Contributing activity	Process category (ies)	Respiratory	Eye	Hands
Preparation of material for application	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Loading of application equipment and handling of coated parts before curing	PROC08b	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Industrial application of coatings and inks by other than spraying	PROC10, PROC13	None	None	None
Film formation - force drying, stoving and other technologies	PROC02	None	None	None
Cleaning	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.

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Application equipment cleaning outside booth	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Waste management	PROC08b	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.

See chapter 8 of this Safety Data Sheet for specifications.

Disclaimer

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SUMI
Safe Use of Mixtures
Information for end-users

Title : Industrial spray painting, walk-in booth

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet, Technical Data sheet and labels.

General description of the process covered

Paint application on industrial line with walk-in spray booth

Operational conditions

Place of use : Indoor use

Risk management measures (RMM)

Contributing activity	Process category (ies)	Maximum duration	Ventilation	
			Type	ach (air changes per hour)
Preparation of material for application	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Loading of application equipment and handling of coated parts before curing	PROC08b	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Industrial application of coatings and inks by spraying	PROC07	More than 4 hours	Local exhaust ventilation	Refer to relevant technical standards
Film formation - force drying, stoving and other technologies	PROC04	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Cleaning	PROC05	More than 4 hours	Local exhaust ventilation	Refer to relevant technical standards
Application equipment cleaning outside booth	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Waste management	PROC08b	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10

Contributing activity	Process category (ies)	Respiratory	Eye	Hands
Preparation of material for application	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Loading of application equipment and handling of coated parts before curing	PROC08b	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Industrial application of coatings and inks by spraying	PROC07	Compressed-air breathing apparatus to EN 14594 with an assigned protection factor of at least 20.	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Film formation - force drying, stoving and other technologies	PROC04	None	None	None
Cleaning	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Application equipment	PROC05	None	Use eye protection	Wear suitable gloves

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cleaning outside booth			according to EN 166.	tested to EN374.
Waste management	PROC08b	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.

See chapter 8 of this Safety Data Sheet for specifications.

Disclaimer

The information in this Safe Use of Mixture Information sheet is based on the data provided by the substance supplier for the substances in the product for which a chemical safety assessment has been carried out at the time of issue. It does not guarantee safe use of the product and does not replace any occupational risk assessment required by legislation. When developing workplace instructions for employees, SUMI sheets should always be considered in combination with the SDS and the label of the product.
No liability is accepted for any damage, no matter of what kind, which is direct or indirect consequence of acts and/or decisions (partly) based on the contents of this document.

SUMI
Safe Use of Mixtures
Information for end-users

Title : Professional application of coatings and inks by spraying-Outdoor

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet, Technical Data sheet and labels.

General description of the process covered

Outdoor spray painting by professionals for general applications (e.g. decorative)

Operational conditions

Place of use : Outdoor use

Risk management measures (RMM)

Contributing activity	Process category (ies)	Maximum duration	Ventilation	
			Type	ach (air changes per hour)
Preparation of material for application	PROC05	1 to 4 hours	Outdoors	3 - 5
Loading of application equipment and handling of coated parts before curing	PROC08a	1 to 4 hours	Outdoors	3 - 5
Professional application of coatings and inks by spraying	PROC11	1 to 4 hours	Outdoors	3 - 5
Film formation - force drying, stoving and other technologies	PROC04	1 to 4 hours	Outdoors	3 - 5
Cleaning	PROC05	1 to 4 hours	Outdoors	3 - 5
Waste management	PROC08a	1 to 4 hours	Outdoors	3 - 5

Contributing activity	Process category (ies)	Respiratory	Eye	Hands
Preparation of material for application	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Loading of application equipment and handling of coated parts before curing	PROC08a	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Professional application of coatings and inks by spraying	PROC11	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Film formation - force drying, stoving and other technologies	PROC04	None	None	None
Cleaning	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Waste management	PROC08a	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.

See chapter 8 of this Safety Data Sheet for specifications.

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No liability is accepted for any damage, no matter of what kind, which is direct or indirect consequence of acts and/or decisions (partly) based on the contents of this document.

SUMI
Safe Use of Mixtures
Information for end-users

Title : Industrial spray painting, no booth

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet, Technical Data sheet and labels.

General description of the process covered

Paint application on industrial line with no enclosure (only local exhaust ventilation)

Operational conditions

Place of use : Indoor use

Risk management measures (RMM)

Contributing activity	Process category (ies)	Maximum duration	Ventilation	
			Type	ach (air changes per hour)
Preparation of material for application	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Loading of application equipment and handling of coated parts before curing	PROC08b	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Industrial application of coatings and inks by spraying	PROC07	More than 4 hours	Local exhaust ventilation	Refer to relevant technical standards
Film formation - force drying, stoving and other technologies	PROC04	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Cleaning	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Waste management	PROC08b	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10

Contributing activity	Process category (ies)	Respiratory	Eye	Hands
Preparation of material for application	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Loading of application equipment and handling of coated parts before curing	PROC08b	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Industrial application of coatings and inks by spraying	PROC07	Wear a respirator conforming to EN140 with an assigned protection factor of at least 10.	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Film formation - force drying, stoving and other technologies	PROC04	None	None	None
Cleaning	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Waste management	PROC08b	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.

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SUMI
Safe Use of Mixtures
Information for end-users

Title : Professional painting, outdoor brush/roller

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet, Technical Data sheet and labels.

General description of the process covered

Outdoor painting by professionals with brush or roller

Operational conditions

Place of use : Outdoor use

Risk management measures (RMM)

Contributing activity	Process category (ies)	Maximum duration	Ventilation	
			Type	ach (air changes per hour)
Preparation of material for application	PROC05	More than 4 hours	Outdoors	3 - 5
Loading of application equipment and handling of coated parts before curing	PROC08a	More than 4 hours	Outdoors	3 - 5
Professional application of coatings and inks by brush or roller	PROC10	More than 4 hours	Outdoors	3 - 5
Film formation - force drying, stoving and other technologies	PROC04	More than 4 hours	Outdoors	3 - 5
Cleaning	PROC05	More than 4 hours	Outdoors	3 - 5
Waste management	PROC08a	More than 4 hours	Outdoors	3 - 5

Contributing activity	Process category (ies)	Respiratory	Eye	Hands
Preparation of material for application	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Loading of application equipment and handling of coated parts before curing	PROC08a	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Professional application of coatings and inks by brush or roller	PROC10	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Film formation - force drying, stoving and other technologies	PROC04	None	None	None
Cleaning	PROC05	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Waste management	PROC08a	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.

See chapter 8 of this Safety Data Sheet for specifications.

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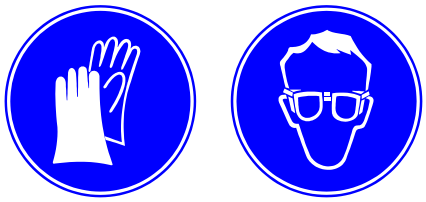

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