

Resist 86 Comp A

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

1.1 Product identifier

Product name	: Resist 86 Comp A
UFI	: ERV1-G0PH-G00K-9ARN
Product code	: 684
Product description	: Paint.
Product type	: Liquid.
Other means of identification	: Not available.

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

Use in coatings - Industrial use
Use in coatings - Professional use

1.3 Details of the supplier of the safety data sheet

Jotun A/S
P.O.Box 2021
3202 Sandefjord
Norway
Tel: + 47 33 45 70 00
Fax: +47 33 45 72 42
E-mail: SDSJotun@jotun.no

Jotun Paints (Europe) Ltd.
Stather Road
Flixborough, Scunthorpe
North Lincolnshire
DN15 8RR
England
Tel: +44 17 24 40 00 00
Fax: +44 17 24 40 01 00

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Contact NHS Direct; phone 0845 4647 or 111. Open 24/7.

Supplier

Telephone number : +47 33 45 70 00 Jotun Norway (head office)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

Flam. Liq. 2, H225
Skin Irrit. 2, H315
Eye Irrit. 2, H319

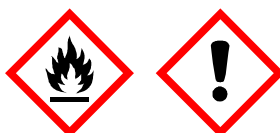
The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

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

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

2.2 Label elements

Hazard pictograms :



Signal word : Danger.

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SECTION 2: Hazards identification

- Hazard statements** : H225 - Highly flammable liquid and vapour.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
- Precautionary statements**
- General** : Not applicable.
- Prevention** : P280 - Wear protective gloves. Wear eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Response** : P362 + P364 - Take off contaminated clothing and wash it before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : Not applicable.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Not applicable.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.
- Special packaging requirements**
- Containers to be fitted with child-resistant fastenings** : Not applicable.
- Tactile warning of danger** : Not applicable.

2.3 Other hazards

- Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- Other hazards which do not result in classification** : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
ethanol	REACH #: 01-2119457610-43 EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5	≥25 - ≤50	Flam. Liq. 2, H225 Eye Irrit. 2, H319	[1] [2]
1-methoxy-2-propanol	REACH #: 01-2119457435-35 EC: 203-539-1 CAS: 107-98-2 Index: 603-064-00-3	≥10 - ≤18	Flam. Liq. 3, H226 STOT SE 3, H336	[1] [2]
kaolin	EC: 310-127-6 CAS: 1332-58-7	≥10 - ≤25	Not classified.	[2]
2-butoxyethanol	REACH #: 01-2119475108-36 EC: 203-905-0 CAS: 111-76-2	≤13	Acute Tox. 4, H302 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1] [2]

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SECTION 3: Composition/information on ingredients

mica	Index: 603-014-00-0 EC: 310-127-6 CAS: 12001-26-2	≤10	Not classified.	[2]
tetraethyl silicate	REACH #: 01-2119496195-28 EC: 201-083-8 CAS: 78-10-4	≤5	Flam. Liq. 3, H226 Acute Tox. 4, H332 Eye Irrit. 2, H319 STOT SE 3, H335	[1] [2]
chromium (iii) oxide	Index: 014-005-00-0 EC: 215-160-9 CAS: 1308-38-9	≤3	Not classified.	[2]
propan-2-ol	REACH #: 01-2119457558-25 EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0	≤1.6	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	[1] [2]
			See Section 16 for the full text of the H statements declared above.	

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

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- 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.

4.2 Most important symptoms and effects, both acute and delayed

SECTION 4: First aid measures

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour 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.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- 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, CO₂, powders, water spray.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

SECTION 5: Firefighting measures

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- For emergency responders** : If specialised 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** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

- 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

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

SECTION 7: Handling and storage**7.2 Conditions for safe storage, including any incompatibilities**

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidising materials. 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. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds**Danger criteria**

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonne	50000 tonne

See Technical Data Sheet / packaging for further information.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limits**

Product/ingredient name	Exposure limit values
ethanol	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 1920 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours.
1-methoxy-2-propanol	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin. STEL: 560 mg/m ³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m ³ 8 hours. TWA: 100 ppm 8 hours.
kaolin	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 2 mg/m ³ 8 hours. Form: respirable dust
2-butoxyethanol	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin. STEL: 50 ppm 15 minutes. TWA: 25 ppm 8 hours. STEL: 246 mg/m ³ 15 minutes. TWA: 123 mg/m ³ 8 hours.
mica	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 0.8 mg/m ³ 8 hours. Form: respirable TWA: 10 mg/m ³ 8 hours. Form: total inhalable
tetraethyl silicate	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 44 mg/m ³ 8 hours. TWA: 5 ppm 8 hours.
chromium (iii) oxide	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 0.5 mg/m ³ , (as Cr) 8 hours.
propan-2-ol	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 1250 mg/m ³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 999 mg/m ³ 8 hours. TWA: 400 ppm 8 hours.

Biological exposure indices

No exposure indices known.

SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Ethanol	DNEL	Long term Oral	87 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	114 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	206 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	343 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	950 mg/m ³	General population	Local
	DNEL	Long term Inhalation	950 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	1900 mg/m ³	Workers	Local
1-methoxy-2-propanol	DNEL	Long term Oral	33 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	43.9 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	78 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	183 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	369 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	553.5 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	553.5 mg/m ³	Workers	Systemic
2-butoxyethanol	DNEL	Short term Dermal	89 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	663 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	246 mg/m ³	Workers	Local
	DNEL	Long term Dermal	75 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	98 mg/m ³	Workers	Systemic
	DNEL	Short term Dermal	44.5 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Short term Inhalation	426 mg/m ³	General population [Consumers]	Systemic
	DNEL	Short term Oral	13.4 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	123 mg/m ³	General population [Consumers]	Local
	DNEL	Long term Dermal	38 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	49 mg/m ³	General population [Consumers]	Systemic
	DNEL	Long term Oral	3.2 mg/kg bw/day	General population	Systemic

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SECTION 8: Exposure controls/personal protection

tetraethyl silicate	DNEL	Long term Oral	6.3 mg/kg bw/day	[Consumers] General population	Systemic
	DNEL	Short term Oral	26.7 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	59 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	98 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	147 mg/m ³	General population	Local
	DNEL	Short term Inhalation	246 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	426 mg/m ³	General population	Systemic
	DNEL	Short term Inhalation	1091 mg/m ³	Workers	Systemic
	DNEL	Short term Dermal	12.1 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	85 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	85 mg/m ³	Workers	Local
	DNEL	Long term Dermal	12.1 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	85 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	85 mg/m ³	Workers	Local
	DNEL	Short term Dermal	8.4 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	25 mg/m ³	[Consumers] General population	Systemic
	DNEL	Short term Inhalation	25 mg/m ³	[Consumers] General population	Local
	DNEL	Long term Dermal	8.4 mg/kg bw/day	[Consumers] General population	Systemic
	DNEL	Long term Inhalation	25 mg/m ³	[Consumers] General population	Systemic
	propan-2-ol	DNEL	Long term Inhalation	25 mg/m ³	[Consumers] General population
DNEL		Short term Dermal	3 mg/kg bw/day	[Consumers] General population	Systemic
DNEL		Long term Dermal	3 mg/kg bw/day	[Consumers] General population	Systemic
DNEL		Short term Inhalation	14 mg/m ³	[Consumers] General population	Local
DNEL		Long term Inhalation	14 mg/m ³	[Consumers] General population	Local
DNEL		Short term Inhalation	14 mg/m ³	[Consumers] General population	Systemic
DNEL		Long term Inhalation	14 mg/m ³	[Consumers] General population	Systemic
DNEL		Short term Dermal	56 mg/kg bw/day	[Consumers] Workers	Systemic
DNEL		Long term Dermal	56 mg/kg bw/day	[Consumers] Workers	Systemic
DNEL		Long term Dermal	888 mg/kg	[Consumers] Workers	Systemic

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SECTION 8: Exposure controls/personal protection

	DNEL	Long term Inhalation	bw/day 500 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	319 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	89 mg/m ³	Workers	Systemic
	DNEL	Long term Oral	26 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Oral	26 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	89 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	319 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	500 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	888 mg/kg bw/day	Workers	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
1-methoxy-2-propanol	Fresh water	10 mg/l	-
	Marine	1 mg/l	-
	Sewage Treatment Plant	100 mg/l	-
	Fresh water sediment	52.3 mg/kg dwt	-
	Marine water sediment	5.2 mg/kg dwt	-
	Soil	5.49 mg/kg dwt	-
2-butoxyethanol	Fresh water	8.8 mg/l	-
	Marine	0.88 mg/l	-
	Sewage Treatment Plant	463 mg/l	-
	Fresh water sediment	34.6 mg/kg dwt	-
	Marine water sediment	3.46 mg/kg dwt	-
	Soil	3.13 mg/kg dwt	-
tetraethyl silicate	Secondary Poisoning	20 mg/kg	-
	Fresh water	0.19 mg/l	-
	Marine	0.019 mg/l	-
	Sewage Treatment Plant	4000 mg/l	-
	Fresh water sediment	0.83 mg/kg dwt	-
	Marine water sediment	0.083 mg/kg dwt	-
propan-2-ol	Soil	0.05 mg/kg dwt	-
	Fresh water	140.9 mg/l	-
	Marine	140.9 mg/l	-
	Sewage Treatment Plant	2251 mg/l	-
	Fresh water sediment	552 mg/kg dwt	-
	Marine water sediment	552 mg/kg dwt	-
	Soil	28 mg/kg dwt	-
	Secondary Poisoning	160 mg/kg	-

8.2 Exposure controls

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

SECTION 8: Exposure controls/personal protection

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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying to ISO 16321-1:2022 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

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.

Gloves

Wear suitable gloves tested to ISO 374-1:2016.

Recommended, gloves(breakthrough time) > 8 hours: butyl rubber (> 0.4 mm), Viton® (> 0.7 mm), 4H/Silver Shield® (> 0.07 mm)

May be used, gloves(breakthrough time) 4 - 8 hours: nitrile rubber (> 0.4 mm), neoprene (> 0.35 mm), Teflon (> 0.35 mm)

Not recommended, gloves(breakthrough time) < 1 hour: PVC (> 0.5 mm), polyvinyl alcohol (PVA) (> 0.3 mm)

For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.

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 : 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.

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 : If workers are exposed to concentrations above the exposure limit, they must use a respirator according to EN 140. Use respiratory mask with charcoal and dust filter when spraying this product, according to EN 14387 (as filter combination A2-P2). In confined spaces, use compressed-air or fresh-air respiratory equipment. When use of roller or brush, consider use of charcoal filter.

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

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.

Colour : Grey

SECTION 9: Physical and chemical properties

Odour	: Characteristic.
Odour threshold	: Not applicable.
Melting point/freezing point	: Not applicable.
Initial boiling point and boiling range	: >36°C (>96.8°F)
Flammability	: Not applicable.
Upper/lower flammability or explosive limits	: 1.1 - 23%
Flash point	: Closed cup: 14°C (57.2°F)
Auto-ignition temperature	: Lowest known value: 222°C (431.6°F) (tetraethyl silicate).
Decomposition temperature	: Not available.
pH	: Not applicable.
Viscosity	: Kinematic (40°C): >20.5 mm ² /s
Solubility(ies)	:

Media	Result
cold water	Not soluble
hot water	Not soluble

Partition coefficient: n-octanol/ water : Not available.

Vapour pressure : Highest known value: 5.7 kPa (43 mm Hg) (at 20°C) (ethanol). Weighted average: 3.47 kPa (26.03 mm Hg) (at 20°C)

Evaporation rate : Highest known value: 1.7 (ethanol) Weighted average: 1.2 compared with butyl acetate

Density : 1.09 to 1.099 g/cm³

Vapour density : Highest known value: 7.22 (Air = 1) (tetraethyl silicate). Weighted average: 2.7 (Air = 1)

Explosive properties : Not available.

Oxidising properties : Not available.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

No additional information.

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: oxidising 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.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour 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.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ethanol	LC50 Inhalation Vapour	Rat	124700 mg/m ³	4 hours
1-methoxy-2-propanol	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	6600 mg/kg	-
2-butoxyethanol	LD50 Oral	Guinea pig - Male, Female	1414 mg/kg	-
	LD50 Oral	Rat - Male, Female	1300 mg/kg	-
propan-2-ol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Resist 86 Comp A	12000.0	N/A	N/A	26.9	N/A
ethanol	7000	N/A	N/A	124.7	N/A
1-methoxy-2-propanol	6600	13000	N/A	N/A	N/A
2-butoxyethanol	1200	N/A	N/A	3	N/A
tetraethyl silicate	N/A	N/A	N/A	11	N/A
propan-2-ol	5000	12800	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
ethanol	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
1-methoxy-2-propanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
2-butoxyethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
tetraethyl silicate	Eyes - Mild irritant	Mammal - species unspecified	-	-	-
propan-2-ol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

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SECTION 11: Toxicological information

Sensitisation

Based on available data, the classification criteria are not met.

Mutagenicity

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Reproductive toxicity

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
1-methoxy-2-propanol	Category 3	-	Narcotic effects
tetraethyl silicate	Category 3	-	Respiratory tract irritation
propan-2-ol	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

General : No known significant effects or critical hazards.

Other information : None identified.

SECTION 12: Ecological information

12.1 Toxicity

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

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as hazardous to the environment.

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SECTION 12: Ecological information

Product/ingredient name	Result	Species	Exposure
2-butoxyethanol	Acute EC50 1000 mg/l Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Acute LC50 1000 mg/l Marine water	Crustaceans - Amphipod - Chaetogammarus marinus - Young	48 hours
propan-2-ol	Acute EC50 10100 mg/l Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Harlequinfish, red rasbora - Rasbora heteromorpha	96 hours

Conclusion/Summary : No known significant effects or critical hazards.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
ethanol	-0.35	-	low
1-methoxy-2-propanol	<1	-	low
2-butoxyethanol	0.81	-	low
tetraethyl silicate	3.18	-	low
propan-2-ol	0.05	-	low

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 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

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).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised 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.

Waste catalogue

Waste code	Waste designation
08 01 11*	Waste paint and varnish containing organic solvents or other dangerous substances

Packaging

Methods of disposal : 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.





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SECTION 13: Disposal considerations

Type of packaging	Waste catalogue	
CEPE Guidelines	15 01 10*	packaging containing residues of or contaminated by hazardous substances

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. Vapour 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1263	UN1263	UN1263	UN1263
14.2 UN proper shipping name	Paint	Paint	Paint	Paint
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	No.	No.	No.

Additional information

ADR/RID : **Hazard identification number** 33
Special provisions 640 (C)
Tunnel code (D/E)

ADN : **Special provisions** 640 (C)

IMDG : **Emergency schedules** F-E, S-E

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 IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

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SECTION 15: Regulatory information

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

P5c

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms :

- ATE = Acute Toxicity Estimate
- GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = GB CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic

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SECTION 16: Other information

PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319	On basis of test data Calculation method Calculation method

Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

Full text of classifications

Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Date of printing : 21.04.2023**Date of issue/ Date of revision** : 21.04.2023**Date of previous issue** : 30.03.2023**Version** : 1.02**Notice to reader**

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