

BENAR UVR

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

1.1 Product identifier

Product name	: BENAR UVR
Product code	: 49
Product type	: Liquid.
Product description	: Paint.
Other means of identification	: Not available.

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

Identified uses

Use in coatings - Consumer use: Apply this product only as specified on the label.

1.3 Details of the supplier of the safety data sheet

Jotun Boya Sanayi ve Ticaret A.Ş.
Balabandere Caddesi, Hilpark Suites Sitesi No: 10, İstinye 34460 Sarıyer, İstanbul

Tel. +90 212 279 7878
SDSJotun@jotun.com

Başvurulacak Kişi: Emre Demir
emre.demir@jotun.com.tr

1.4 Emergency telephone number

National Poison Information Center

- +90 224 442 82 93 Uludağ Üniversitesi Zehir Danışma Merkezi (www.uludag.edu.tr/uludag/zehir.html)
a. ACİL DURUM TELEFONU: Zehirlenme durumlarında gerektiğinde ulusal zehir merkezinin (UZEM) 114 nolu telefonunu arayınız.
b. ACİL İLK YARDIM MERKEZİ:112
c. İTFAİYE:110

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to regulation SEA: RG.-11/12/2013-28848

Skin Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1, H317
STOT RE 1, H372 (central nervous system (CNS))
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

The product is classified as hazardous according to Regulation SEA: RG.-11/12/2013-28848.

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



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SECTION 2: Hazards identification

Signal word	: Danger.
Hazard statements	: H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H372 - Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS)) H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements	
General	: P102 - Keep out of reach of children.
Prevention	: P280 - Wear protective gloves. Wear eye or face protection. P273 - Avoid release to the environment. P260 - Do not breathe vapour. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
Response	: P391 - Collect spillage. P314 - Get medical advice/attention if you feel unwell. P362 + P364 - Take off contaminated clothing and wash it before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. 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.
Hazardous ingredients	: hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%), (<0.1% Benzene) 4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT) 2-octyl-2h-isothiazol-3-one (OIT)
Supplemental label elements	: Not applicable.
Additional information	: Contains film preservatives: DCOIT, OIT
Special packaging requirements	
Containers to be fitted with child-resistant fastenings	: Yes, applicable.
Tactile warning of danger	: Yes, applicable.

2.3 Other hazards

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	CAS no.	%	SEA: RG.-11/12/2013-28848	Type
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%), (<0.1% Benzene)	EC: 265-185-4 CAS: 64742-82-1 Index: 649-330-00-2	≥25 - ≤50	STOT RE 1, H372 (central nervous system (CNS)) Asp. Tox. 1, H304 Aquatic Chronic 3, H412 Repr. 2, H361d	[1]
hexanoic acid, 2-ethyl-, zirconium salt	EC: 245-018-1 CAS: 22464-99-9	≤0.3	Repr. 2, H361d	[1] [2]
4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT)	CAS: 64359-81-5	≤0.3	Acute Tox. 4, H302 Acute Tox. 2, H330 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=100)	[1]

SECTION 3: Composition/information on ingredients

2-octyl-2h-isothiazol-3-one (OIT)	CAS: 26530-20-1 Index: 613-112-00-5	≤0.3	Aquatic Chronic 1, H410 (M=100) Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	[1]
Oleic acid, compound	CAS: 34140-91-5	≤0.1	Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100) Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT RE 2, H373 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 2, H411 See Section 16 for the full text of the H statements declared above.	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs 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
- [3] Substance meets the criteria for PBT
- [4] Substance meets the criteria for vPvB
- [5] Additional disclosure due to company policy

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** : 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 following exposure or if feeling unwell. 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** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. 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 following exposure or if feeling unwell. 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.

SECTION 4: First aid measures

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. 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.

Contains 4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT), 2-octyl-2H-isothiazol-3-one (OIT). May produce an allergic reaction.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

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.

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** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

SECTION 5: Firefighting measures

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

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.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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. 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. 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. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

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

7.1 Precautions for safe handling

Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour 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.

SECTION 7: Handling and storage

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

Vapours are heavier than air and may spread along floors. Vapours may form 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 vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has 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: oxidising 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 unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Seveso Directive - Reporting thresholds (in tonnes)

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E1	100	200

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
2-ethylhexanoic acid, zirconium salt	ACGIH TLV (United States, 1/2021). Notes: as Zr STEL: 10 mg/m ³ , (as Zr) 15 minutes. TWA: 5 mg/m ³ , (as Zr) 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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.

Derived no effect levels

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%), (<0.1% Benzene)	DNEL	Long term Inhalation	0.41 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	1.9 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	178.57 mg/m ³	General population	Local
	DNEL	Short term Inhalation	640 mg/m ³	General population	Local
	DNEL	Long term Inhalation	837.5 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	1066.67 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	1152 mg/m ³	General population	Systemic
	DNEL	Short term Inhalation	1286.4 mg/m ³	Workers	Systemic
hexanoic acid, 2-ethyl-, zirconium salt	DNEL	Long term Oral	2.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	2.5 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	3.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	5 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	6.49 mg/kg bw/day	Workers	Systemic
oleic acid, compound with (Z)-N-octadec-9-enylpropane-1,3-diamine (2:1)	DNEL	Long term Oral	5 µg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	5 µg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	14 µg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	17.4 µg/m ³	General population	Systemic
	DNEL	Long term Inhalation	98.4 µg/m ³	Workers	Systemic

Predicted no effect concentrations

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls

: If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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

: Safety eyewear complying to EN 166 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

:

SECTION 8: Exposure controls/personal 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. Wear suitable gloves tested to EN374. Recommended, gloves(breakthrough time) > 8 hours: nitrile rubber
May be used, gloves(breakthrough time) 4 - 8 hours: 4H

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid.
- Colour** : Grey
- Odour** : Characteristic.
- Odour threshold** : Not applicable.
- pH** : Not applicable.
- Melting point/freezing point** : Not applicable.
- Initial boiling point and boiling range** : Lowest known value: 188.2°C (370.8°F) (propylene glycol). Weighted average: 196.24°C (385.2°F)
- Flash point** : Closed cup: 62°C (ISO 3679:2015)
- Evaporation rate** : 0.01 (propylene glycol) compared with butyl acetate
- Flammability (solid, gas)** : Not applicable.
- Upper/lower flammability or explosive limits** : 1.4 - 12.6%
- Vapour pressure** : Highest known value: 0.02 kPa (0.2 mm Hg) (at 20°C) (propylene glycol).
- Vapour density** : Highest known value: 2.6 (Air = 1) (propylene glycol).
- Density** : 0.93 g/cm³ (ISO 2811-1:2016)

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SECTION 9: Physical and chemical properties

Solubility(ies)	: Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: Lowest known value: 280 to 470°C (536 to 878°F) (hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%), (<0.1% Benzene)).
Decomposition temperature	: Not available.
Viscosity	: Kinematic (40°C): >20.5 mm ² /s (>20.5 cSt) (ISO 3219)
Explosive properties	: Not available.
Oxidising properties	: Not available.

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	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: No specific data.
10.5 Incompatible materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids. Under normal conditions of storage and use, hazardous reactions will not occur.
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

There are no data available on the mixture itself. 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.

Contains 4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT), 2-octyl-2H-isothiazol-3-one (OIT). May produce an allergic reaction.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-octyl-2H-isothiazol-3-one (OIT)	LD50 Dermal	Rabbit	690 mg/kg	-
	LD50 Dermal	Rabbit	690 mg/kg	-
	LD50 Oral	Rat	550 mg/kg	-

Conclusion/Summary : Not available.

Acute toxicity estimates

Route	ATE value
Oral	67782.18 mg/kg
Dermal	467697.04 mg/kg
Inhalation (dusts and mists)	25.73 mg/l

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Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
4,5-dichloro-2-octyl-2H-isothiazol-3-one	Skin - Severe irritant	Mammal - species unspecified	-	-	-
	Eyes - Severe irritant	Mammal - species unspecified	-	-	-

Conclusion/Summary : Not available.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
4,5-dichloro-2-octyl-2H-isothiazol-3-one	skin	Mammal - species unspecified	Sensitising
2-octyl-2H-isothiazol-3-one (OIT)	skin	Mammal - species unspecified	Sensitising

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Naphtha (petroleum), hydrodesulfurized heavy	Category 1	-	central nervous system (CNS)
Oleic acid, compound	Category 2	-	-

Aspiration hazard

Product/ingredient name	Result
Naphtha (petroleum), hydrodesulfurized heavy	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : 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. May cause an allergic skin reaction.

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.

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SECTION 11: Toxicological information

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

Ingestion : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
4,5-dichloro-2-octyl-2H-isothiazol-3-one	Acute EC50 0.0057 mg/l	Crustaceans - Daphnia magna	48 hours
	Acute LC50 0.014 mg/l	Fish - Lepomis macrochirus	96 hours
2-octyl-2H-isothiazol-3-one (OIT)	Acute LC50 0.0027 mg/l	Fish - Onchorhynchus mykiss	96 hours
	Chronic NOEC 0.00056 mg/l	Fish	97 days
	Acute EC50 0.084 mg/l	Algae - Scenedesmus subspicatus	72 hours
	Acute EC50 0.32 mg/l	Daphnia	48 hours
	Acute LC50 0.047 mg/l	Fish	96 hours

Conclusion/Summary : Water polluting material. May be harmful to the environment if released in large quantities. This material is very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
4,5-dichloro-2-octyl-2H-isothiazol-3-one	-	-	Readily

12.3 Bioaccumulative potential

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SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
Naphtha (petroleum), hydrodesulfurized heavy	-	10 to 2500	high
2-ethylhexanoic acid, zirconium salt	-	2.96	low
2-octyl-2H-isothiazol-3-one (OIT)	2.45	-	low

12.4 Mobility in soil

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

Mobility : Not available.

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

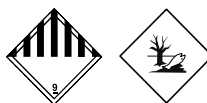
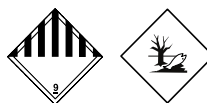
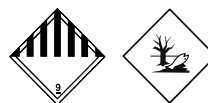
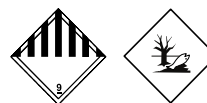
SECTION 13: Disposal considerations

13.1 Waste treatment methods

T. C. Ministry of Environment and Urbanism published on April 2, 2015 R.G. Dispose according to the "Waste Management Regulation" no. 29314.

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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN3082	UN3082	UN3082	UN3082
14.2 UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT))	Environmentally hazardous substance, liquid, n.o.s. (4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT))	Environmentally hazardous substance, liquid, n.o.s. (4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT)). Marine pollutant (4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT))	Environmentally hazardous substance, liquid, n.o.s. (4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT))
14.3 Transport hazard class(es)				
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes.

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SECTION 14: Transport information

<p>Additional information</p>	<p>This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. Hazard identification number 90 Tunnel code (-)</p>	<p>This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.</p>	<p>This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. Emergency schedules F-A, S-F</p>	<p>This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.</p>
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Marking : The environmental hazardous / marine pollutant mark is only applicable for packages containing more than 5 litres for liquids and 5 kg for solids.

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

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

E1

EU regulations

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

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

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

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.

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UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate
 EUH statement = CLP-specific Hazard statement
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to regulation SEA: RG.-11/12/2013-28848

Classification	Justification
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
STOT RE 1, H372 (central nervous system (CNS))	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

Full text of abbreviated H statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic 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.
H330	Fatal if inhaled.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Corr. 1	SKIN CORROSION/IRRITATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

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SECTION 16: Other information

Date of issue/ Date of revision : 08.06.2022

Date of previous issue : 08.06.2022

Version : 2.01

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Certificate Expiration Date: 11.07.2025

Notice to reader

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.