

SAFETY DATA SHEET

Flux WS 488



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

1.1 Product identifier

Product name : Flux WS 488
GHS reference number : GHS097
Product description : Not available.
Product type : Solid: Paste.
Other means of identification : Not available.

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

Identified uses

Not applicable.

Uses advised against

Not applicable.

1.3 Details of the supplier of the safety data sheet

AIM
9100 Henri Bourassa East
Montreal, QC
H1E 2S4
(514) 494-2000

AIM Solder Europe Sp. z.o.o.
ul. Papiernicza 7
Łódź 92-312
Poland

e-mail address of person responsible for this SDS : Safetydata@aimsolder.com

National contact

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : INFOTRAC
Europe: 0800-181-29-24
International: (352) 323-3500

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]

Skin Corr. 1B, H314
Eye Irrit. 2, H319
Skin Sens. 1, H317
Repr. 1B, H360
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

SECTION 2: Hazards identification

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.

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

2.2 Label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May damage fertility or the unborn child.
Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

: Wear protective gloves. Wear eye or face protection. Avoid release to the environment.

Response

: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

: Store locked up.

Disposal

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

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

: Restricted to professional users.

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	Specific Conc. Limits, M-factors and ATEs	Type

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SECTION 3: Composition/information on ingredients

2,2-bis(hydroxymethyl)propionic acid	EC: 225-306-3 CAS: 4767-03-7	≤10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	-	[1]
rosin	EC: 232-475-7 CAS: 8050-09-7 Index: 650-015-00-7	≤10	Skin Sens. 1, H317 Aquatic Chronic 4, H413	-	[1]
bis(2-(2-methoxyethoxy)ethyl) ether	EC: 205-594-7 CAS: 143-24-8	≤5	Eye Irrit. 2, H319 Repr. 1B, H360	-	[1]
1-aminopropan-2-ol	EC: 201-162-7 CAS: 78-96-6 Index: 603-082-00-1	≤5	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Irrit. 2, H319 Aquatic Chronic 3, H412	ATE [Oral] = 1715 mg/kg	[1]
2,3-dibromo-2-butene-1,4-diol	EC: 221-779-5 CAS: 3234-02-4	≤4.8	Eye Irrit. 2, H319 STOT SE 3, H335	-	[1]
toluene-4-sulphonic acid	EC: 203-180-0 CAS: 6192-52-5 Index: 016-030-00-2	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	STOT SE 3, H335: C ≥ 20%	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	<3	Skin Corr. 1A, H314 Eye Dam. 1, H318	-	[1]
2,2',2''-nitrilotriethanol	EC: 203-049-8 CAS: 102-71-6	≤3	STOT RE 2, H373 (kidneys, liver)	STOT RE 2, H373: C ≥ 10%	[1]
Amines, tallow alkyl, ethoxylated	EC: 500-153-8 CAS: 61791-26-2	≤3	Acute Tox. 4, H302 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg M [Acute] = 100 M [Chronic] = 100	[1]
2,6-di-tert-butyl-p-cresol	EC: 204-881-4 CAS: 128-37-0	≤1	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 See Section 16 for the full text of the H statements declared above.	M [Acute] = 1 M [Chronic] = 1	[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, 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

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

- : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

SECTION 4: First aid measures

- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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. 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.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

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.

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SECTION 4: First aid measures

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : 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.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds

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 spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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

: Avoid dispersal of spilled 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 materials for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

- 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). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. 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.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. 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. Store locked up. 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 unlabeled 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
E1	100 tonne	200 tonne

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

SECTION 8: Exposure controls/personal protection

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.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects	
2,2-bis(hydroxymethyl)propionic acid	DNEL	Long term Oral	2 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	2 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	3.5 mg/m ³	General population	Systemic	
	DNEL	Long term Dermal	4 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	14 mg/m ³	Workers	Systemic	
	rosin	DNEL	Long term Oral	1.0655 mg/kg bw/day	General population	Systemic
		DNEL	Long term Dermal	1.0655 mg/kg bw/day	General population	Systemic
		DNEL	Long term Dermal	2.131 mg/kg bw/day	Workers	Systemic
DNEL		Long term Inhalation	10 mg/m ³	Workers	Local	
bis(2-(2-methoxyethoxy)ethyl) ether	DNEL	Long term Dermal	3 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	22 mg/m ³	Workers	Systemic	
1-aminopropan-2-ol	DNEL	Long term Oral	0.76 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	3.6 mg/m ³	Workers	Systemic	
toluene-4-sulphonic acid	DNEL	Long term Oral	2.5 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	2.5 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	7.6 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	8.7 mg/m ³	General population	Systemic	
	DNEL	Long term Inhalation	53.6 mg/m ³	Workers	Systemic	
glutaric acid	DNEL	Long term Oral	1.63 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	1.63 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	2.84 mg/m ³	General population	Systemic	
	DNEL	Long term Dermal	3.27 mg/kg bw/day	Workers	Systemic	
	DNEL	Short term Oral	9.8 mg/kg bw/day	General population	Systemic	
	DNEL	Short term Dermal	9.8 mg/kg	General	Systemic	

SECTION 8: Exposure controls/personal protection

2,2',2''-nitrioltriethanol	DNEL	Long term Inhalation	11.52 mg/m ³	bw/day	Workers	Systemic
	DNEL	Short term Inhalation	17.04 mg/m ³		General population	Systemic
	DNEL	Short term Dermal	19.6 mg/cm ²	kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	69.12 mg/m ³		Workers	Systemic
	DNEL	Long term Dermal	0.07 mg/cm ²		General population	Local
	DNEL	Long term Dermal	0.14 mg/cm ²		Workers	Local
	DNEL	Long term Inhalation	0.4 mg/m ³		General population	Local
	DNEL	Long term Inhalation	1 mg/m ³		Workers	Local
	DNEL	Long term Dermal	2.66 mg/cm ²	kg bw/day	General population	Systemic
	DNEL	Long term Oral	3.3 mg/kg		General population	Systemic
2,6-di-tert-butyl-p-cresol	DNEL	Long term Dermal	7.5 mg/cm ²	kg bw/day	Workers	Systemic
	DNEL	Long term Oral	0.25 mg/kg		General population	Systemic
	DNEL	Long term Dermal	0.25 mg/cm ²	kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.435 mg/m ³		General population	Systemic
	DNEL	Long term Dermal	0.5 mg/cm ²	kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.76 mg/m ³		Workers	Systemic

PNECs

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls

: If user operations generate dust, fumes, gas, vapor 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 with an approved standard 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

SECTION 8: Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- 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** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- 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

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** : Solid. [Paste]
- Color** : Amber.
- Odor** : Terpene [Slight]
- Odor threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit** : Not applicable.
- Flash point** : [Product does not sustain combustion.]
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not available.
- pH** : Not available.
- Viscosity** : Not applicable.
- Solubility(ies)** :

Media	Result
cold water	Soluble
hot water	Easily soluble

- Solubility in water** : Not available.
- Partition coefficient: n-octanol/ water** : Not applicable.
- Vapor pressure** : Not available.
- Relative density** : Not available.
- Vapor density** : Not applicable.

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SECTION 9: Physical and chemical properties

- Explosive properties** : Not available.
Oxidizing properties : Not available.
Particle characteristics
Median particle size : Not available.

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 : No specific data.
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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
rosin	LD50 Oral	Rat	7600 mg/kg	-
bis(2-(2-methoxyethoxy)ethyl) ether	LD50 Dermal	Rat	>6900 mg/kg	-
1-aminopropan-2-ol	LD50 Oral	Rat	3850 mg/kg	-
	LD50 Oral	Rat	1715 mg/kg	-
	LD50 Oral	Rat	1715 mg/kg	-
toluene-4-sulphonic acid	LD50 Oral	Rat	2570 mg/kg	-
glutaric acid	LD50 Dermal	Rabbit	>10000 mg/kg	-
2,2',2''-nitrilotriethanol	LD50 Oral	Rat	2750 mg/kg	-
	LD50 Dermal	Rabbit	>2000 mg/kg	-
Amines, tallow alkyl, ethoxylated	LD50 Oral	Rat	4190 mg/kg	-
	LD50 Dermal	Rat	>10 g/kg	-
2,6-di-tert-butyl-p-cresol	LD50 Oral	Rat	500 mg/kg	-
	LD50 Oral	Rat	890 mg/kg	-

Conclusion/Summary : No additional remark.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Flux WS 488	18292.2	N/A	N/A	N/A	N/A
rosin	7600	N/A	N/A	N/A	N/A
bis(2-(2-methoxyethoxy)ethyl) ether	3850	N/A	N/A	N/A	N/A
1-aminopropan-2-ol	1715	N/A	N/A	N/A	N/A
toluene-4-sulphonic acid	2570	N/A	N/A	N/A	N/A
glutaric acid	2750	N/A	N/A	N/A	N/A
2,2',2''-nitrilotriethanol	4190	N/A	N/A	N/A	N/A
Amines, tallow alkyl, ethoxylated	500	N/A	N/A	N/A	N/A

SECTION 11: Toxicological information

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
bis(2-(2-methoxyethoxy)ethyl) ether 1-aminopropan-2-ol	Eyes - Mild irritant	Rabbit	-	500 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 250 ug	-
glutaric acid 2,2',2"-nitrilotriethanol	Eyes - Severe irritant	Rabbit	-	970 ug	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	485 mg	-
	Skin - Mild irritant	Rabbit	-	0.5 g	-
	Eyes - Mild irritant	Rabbit	-	10 mg	-
	Eyes - Severe irritant	Rabbit	-	20 mg	-
Amines, tallow alkyl, ethoxylated	Skin - Mild irritant	Human	-	72 hours 15 mg l	-
	Skin - Mild irritant	Rabbit	-	24 hours 560 mg	-
	Skin - Severe irritant	Mouse	-	50 %	-
	Eyes - Moderate irritant	Rabbit	-	100 mg	-
2,6-di-tert-butyl-p-cresol	Eyes - Severe irritant	Rabbit	-	24 hours 100 uL	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Human	-	48 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	48 hours 500 mg	-

Conclusion/Summary : Not available.

Sensitization

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Repeated and prolonged contact may cause an allergic skin reaction (sensitization) in susceptible individuals. None have been reported.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2,2-bis(hydroxymethyl)propionic acid	Category 3	-	Respiratory tract irritation
2,3-dibromo-2-butene-1,4-diol	Category 3	-	Respiratory tract irritation
toluene-4-sulphonic acid	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2,2',2"-nitrilotriethanol	Category 2	-	kidneys, liver

Aspiration hazard

SECTION 11: Toxicological information

Not available.

Information on the likely routes of exposure : Routes of entry not anticipated: Dermal.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns. 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
watering
redness
- Inhalation** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also 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** : 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.
- Reproductive toxicity** : May damage fertility or the unborn child.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

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SECTION 11: Toxicological information

Not available.

11.2.2 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
bis(2-(2-methoxyethoxy) ethyl) ether	EC10 2871 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	EC50 8996 mg/l	Aquatic plants - Pseudokirchneriella subcapitata	72 hours
1-aminopropan-2-ol	EC50 7467 mg/l	Daphnia	48 hours
	LC50 >5000 mg/l	Fish - Brachydanio rerio	96 hours
	EC50 32.7 mg/l	Algae - Desmodesmus subspicatus	72 hours
2,2',2''-nitrilotriethanol	EC50 108.82 mg/l	Daphnia	48 hours
	Acute LC50 210 mg/l Fresh water	Fish - Carassius auratus	96 hours
	EC50 216 mg/l	Algae - Desmodesmus subspicatus	72 hours
Amines, tallow alkyl, ethoxylated	EC50 169 mg/l	Algae - Desmodesmus subspicatus	96 hours
	LC50 100 mg/l	Fish - Pimephales promelas	96 hours
	Acute EC50 609.98 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
2,6-di-tert-butyl-p-cresol	Chronic NOEC 16 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute LC50 2.6 µg/l Fresh water	Crustaceans - Thamnocephalus platyurus - Nauplii	48 hours
	Acute LC50 2350 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
2,6-di-tert-butyl-p-cresol	Acute LC50 650 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 1440 µg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2,2-bis(hydroxymethyl) propionic acid	-1.1	-	low
rosin	1.9 to 7.7	-	high
bis(2-(2-methoxyethoxy) ethyl) ether	-0.84	-	low
1-aminopropan-2-ol	-0.96	0.11	low
glutaric acid	-0.29	-	low
2,2',2''-nitrilotriethanol	-1	<3.9	low
2,6-di-tert-butyl-p-cresol	5.1	330 to 1800	high

12.4 Mobility in soil

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

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SECTION 12: Ecological information

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

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 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 : The classification of the product may meet the criteria for a hazardous waste.

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.

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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

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SECTION 14: Transport information

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 available.

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.

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Toxic to reproduction	bis(2-(2-methoxyethoxy)ethyl)ether	Candidate	D(2020) 9139-DC	1/19/2021

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Restricted to professional users.

Other EU regulations

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

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

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

E1

Rotterdam Convention on Prior Informed Consent (PIC)

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
 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
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Key literature references and sources for data

: -ACGIH, Threshold Limit Values, 1994-1995. -Canada Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List". -CFR29, OSHA's Permissible Exposure Limits, revision July, 1993. -CFR29, part 1910.1200, Hazard Communication. -CHEMTOX database - Components' manufacturer's Material Safety Data Sheet. -CRC Handbook of chemistry and physics, 67 th edition, CRC Press inc., Boca Raton, Florida. -CSST (Comission de Santé et Sécurité au Travail), document #RT-12: Classification of Certain Chemical Substances. -IATA, Dangerous Goods Regulations, 37th edition (January 1, 1996) -NFPA, Fire Protection Guide to Chemical Hazards, 11th edition. -NIOSH, Pocket Guide to Chemical Hazards, revision June 1994. Sigma-Alrich handbook of fine chemicals, 1998 -TSCA (Toxic Substance Contral Act), Chemical Substance Inventory List, 1985.

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

Classification	Justification
Skin Corr. 1B, H314	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Repr. 1B, H360	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

Full text of abbreviated H statements

H302	Harmful if swallowed.
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.
H335	May cause respiratory irritation.
H360	May damage fertility or the unborn child.
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. 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
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Repr. 1B	TOXIC TO REPRODUCTION - Category 1B
Skin Corr. 1A	SKIN CORROSION/IRRITATION - Category 1A
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B

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SECTION 16: Other information

Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
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

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Version : 1.04

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