SAFETY DATA SHEET

Prefere 5093

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

1.1 Product identifier

Product name : Prefere 5093

UFI : 51D0-506J-4006-FS5W

Product type : Liquid.

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

Use of the substance/ mixture : Industrial/Professional Use: Hardener. Woodworking industry.

1.3 Details of the supplier of the safety data sheet

Supplier : Dynea AS
P.O.Box 160, N-2001 Lillestrøm
Norway
Tel. +47 63897100
Fax. +47 63897610

e-mail address of person responsible for this SDS : sds@dynea.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Not available.

Supplier

Telephone number : +47 63897100

Hours of operation : 24 hours

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 Irrit. 2, H315
Eye Irrit. 2, H319

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 : Warning

SECTION 2: Hazards identification

Hazard statements : H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

Precautionary statements

Prevention : P280 - Wear protective gloves. Wear eye or face protection.
P264 - Wash thoroughly after handling.

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 : Not applicable.

Supplemental label elements : Contains reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1). May produce an allergic reaction.

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

Special packaging requirements

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 : Causes digestive tract burns.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
formic acid	REACH #: 01-2119491174-37 EC: 200-579-1 CAS: 64-18-6 Index: 607-001-00-0	<10	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 3, H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 EUH071	ATE [Oral] = 730 mg/kg ATE [Inhalation (vapours)] = 7,85 mg/l Skin Corr. 1A, H314: C ≥ 90% Skin Corr. 1B, H314: 10% ≤ C < 90% Skin Irrit. 2, H315: 2% ≤ C < 10% Eye Dam. 1, H318: C ≥ 10% Eye Irrit. 2, H319: 2% ≤ C < 10%	[1] [2]
ethanediol; ethylene glycol	REACH #: 01-2119456816-28 EC: 203-473-3 CAS: 107-21-1	≤3	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys) (oral)	ATE [Oral] = 500 mg/kg	[1] [2]

SECTION 3: Composition/information on ingredients

	Index: 603-027-00-1				
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	REACH #: 01-2120764691-48 CAS: 55965-84-9 Index: 613-167-00-5	<0,001	Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 2, H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 **See Section 16 for the full text of the H statements declared above.**	ATE [Oral] = 100 mg/kg ATE [Dermal] = 50 mg/kg ATE [Inhalation (dusts and mists)] = 0,05 mg/l Skin Corr. 1C, H314: C ≥ 0,6% Skin Irrit. 2, H315: 0,06% ≤ C < 0,6% Eye Dam. 1, H318: C ≥ 0,6% Eye Irrit. 2, H319: 0,06% ≤ C < 0,6% Skin Sens. 1, H317: C ≥ 0,0015% M [Acute] = 100 M [Chronic] = 100	[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
[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. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Move exposed person to fresh air. Get medical attention if symptoms occur. 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 : 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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. 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.

General : Move the victim to a safe area as soon as possible. If unconscious, place in recovery position and seek medical advice. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Allow the victim to rest in a well-ventilated area.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

SECTION 4: First aid measures

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes skin irritation.

Ingestion : Corrosive to the digestive tract. Causes burns. May be irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

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

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

Ingestion : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

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

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : None known.

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.

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

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.

SECTION 6: Accidental release measures

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. Absorb with liquid-binding material (sand, diatomite, universal binders etc.) or use a spill kit.

Large spill : Approach the release from upwind. Stop leak if without risk. Move containers from spill area. 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. 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

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.

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 away from incompatible materials (see Section 10). Keep away from food, drink and animal feeding stuffs. 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.

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

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure limit values
formic acid	**EU OEL (Europe, 1/2022). Notes: list of indicative occupational exposure limit values** TWA: 5 ppm 8 hours. TWA: 9 mg/m³ 8 hours.
ethanediol; ethylene glycol	**EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values** TWA: 20 ppm 8 hours. TWA: 52 mg/m³ 8 hours. STEL: 40 ppm 15 minutes. STEL: 104 mg/m³ 15 minutes.

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
formic acid	DNEL	Long term Inhalation	3 mg/m³	General population	Local
	DNEL	Long term Inhalation	9,5 mg/m³	Workers	Local
	DNEL	Long term Inhalation	9,5 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	3 mg/m³	General population	Systemic
ethanediol; ethylene glycol	DNEL	Long term Inhalation	7 mg/m³	General population	Local
	DNEL	Long term Inhalation	35 mg/m³	Workers	Local
	DNEL	Long term Dermal	53 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	106 mg/kg bw/day	Workers	Systemic
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	DNEL	Short term Oral	0,11 mg/ kg bw/day	General population	Systemic
	DNEL	Long term Oral	0,09 mg/ kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	0,04 mg/m³	General population	Local
	DNEL	Long term Inhalation	0,02 mg/m³	General population	Local
	DNEL	Short term Inhalation	0,04 mg/m³	Workers	Local
	DNEL	Long term Inhalation	0,02 mg/m³	Workers	Local

PNECs

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Compartment Detail	Value	Method Detail
formic acid	Fresh water	2 mg/l	-
	Intermittent release	1 mg/l	Assessment Factors
	Marine	0,2 mg/l	-
	Sewage Treatment Plant	7,2 mg/l	-
	Fresh water sediment	13,4 mg/kg	-
	Marine water sediment	1,34 mg/kg	-
	Soil	1,5 mg/kg	-
ethanediol	Fresh water	10 mg/l	Assessment Factors
	Intermittent release	10 mg/l	Assessment Factors
	Marine	1 mg/l	Assessment Factors
	Sewage Treatment Plant	199,5 mg/l	Assessment Factors
	Fresh water sediment	37 mg/l	Equilibrium Partitioning
	Marine water sediment	3,7 mg/l	Equilibrium Partitioning
	Soil	1,53 mg/kg	Equilibrium Partitioning

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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

Eye/face protection : Use eye protection according to EN 166, designed to protect against liquid splashes. Recommended: chemical splash goggles.

Skin protection

Hand protection : Wear suitable gloves tested to EN374. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers.

Recommended: Protective Index 6 / Breakthrough time >480 minutes: neoprene rubber 0.7 mm thickness or butyl rubber 0.7 mm thickness

Body protection : Wear work clothing with long sleeves. Cotton or cotton/synthetic overalls or coveralls are normally suitable.

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 : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. No personal respiratory protective equipment normally required.

Long Term Exposure / high concentrations : Self-contained respirator (DIN EN 133) or full face mask (DIN EN 136)

Short term exposure / Low exposure : Half-face mask (DIN EN 140)

Recommended: Filter type: Type A (Brown): organic gases and vapours with a boiling point higher than 65°C.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

SECTION 9: Physical and chemical properties

The information provided in this section are typical values and not sales specifications

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.

SECTION 9: Physical and chemical properties

Colour : White.

Odour : Pungent.

Odour threshold : Not available.

Melting point/freezing point : 0°C

Initial boiling point and boiling range : 100°C

Flammability : Not available.

Lower and upper explosion limit : Not available.

Flash point : Closed cup: >100°C [ASTM D 93]

Auto-ignition temperature : Not applicable.

Decomposition temperature : Not available.

pH : 2,1 [EN 1245]

Kinematic viscosity : Not applicable.

Solubility(ies)

Media	Result
cold water	Partially soluble

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

Vapour pressure

	Vapour Pressure at 20˚C		Vapour pressure at 50˚C	
Ingredient name	**kPa**	**Method**	**kPa**	**Method**
acetaldehyde; ethanal	120			

Relative density : Not available.

Density : 1,1 g/cm³ [ASTM D 4052]

Vapour density : Not available.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

No specific data.

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
formic acid	LC50 Inhalation Vapour	Rat	7,85 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	730 mg/kg	-
ethanediol; ethylene glycol	LC50 Inhalation Dusts and mists	Rat	>2,5 mg/l	6 hours
	LD50 Oral	Rat - Male, Female	7712 mg/kg	-
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	LC50 Inhalation Dusts and mists	Rat	1,23 mg/m³	4 hours
	LD50 Dermal	Rabbit	660 mg/kg	-
	LD50 Oral	Rat	457 mg/kg	-

formic acid: Toxic by inhalation. Harmful if swallowed.
ethane-1,2-diol: Harmful if swallowed.

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)
Prefere 5093	5659,4	N/A	N/A	78,7	N/A
formic acid	730	N/A	N/A	7,85	N/A
ethanediol; ethylene glycol	500	N/A	N/A	N/A	N/A
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	100	50	N/A	N/A	0,05

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
formic acid	Sub-chronic NOAEC Inhalation Vapour	Rat	122 mg/m³	13 weeks; 5 days per week
	Chronic NOAEL Oral	Rat	142 mg/kg	-
ethanediol; ethylene glycol	Sub-chronic NOAEL Oral	Rat	150 mg/kg	16 weeks; 7 days per week
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	Sub-chronic NOAEC Inhalation Dusts and mists	Rat	2,36 mg/m³	90 days; 6 hours per day
	Sub-chronic NOAEL Dermal	Rat	0,1 mg/kg	90 days; 6 hours per day

Irritation/Corrosion

Skin : formic acid: Corrosive to the skin.
ethane-1,2-diol: Mild irritant

Eyes :

SECTION 11: Toxicological information

formic acid: Risk of serious damage to eyes.
ethane-1,2-diol: Mildly irritating to the eyes.

Product Conclusion/ Summary : Causes skin irritation. Causes serious eye irritation.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
formic acid	skin	Guinea pig	Not sensitizing
ethanediol; ethylene glycol	skin	Human	Not sensitizing

Skin : formic acid: Not sensitizing
ethane-1,2-diol: Not sensitizing

Respiratory : ethane-1,2-diol: Not sensitizing

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
ethanediol; ethylene glycol	-	Experiment: In vitro Subject: Bacteria	Negative

ethane-1,2-diol: Based on available data, the classification criteria are not met.

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

ethane-1,2-diol: Based on available data, the classification criteria are not met.

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethanediol; ethylene glycol	Category 2	oral	kidneys

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Aspiration hazard

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Potential Adverse effects

Eye contact : Causes serious eye irritation.

SECTION 11: Toxicological information

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

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes skin irritation.

Adverse symptoms may include the following:
irritation
redness

Ingestion : Corrosive to the digestive tract. Causes burns. May be irritating to mouth, throat and stomach.

Adverse symptoms may include the following:
stomach pains

Interactive effects : No specific data.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

No specific data.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
formic acid	EC50 1000 mg/l Fresh water	Algae	72 hours
	EC50 365 mg/l Fresh water	Daphnia	48 hours
	LC50 130 mg/l Fresh water	Fish	96 hours
	NOEC 100 mg/l Fresh water	Algae	72 hours
	Chronic NOEC 100 mg/l Fresh water	Daphnia	21 days
ethanediol; ethylene glycol	NOEC 100 mg/l	Algae	72 hours
	Acute EC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours Static
	Acute LC50 53000 mg/l Fresh water	Fish	96 hours Static
	Acute NOEC 8590 mg/l	Daphnia	7 days Static
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	EC50 0,037 mg/l Fresh water	Algae	72 hours
	EC50 0,16 mg/l Fresh water	Daphnia	48 hours
	LC50 0,19 mg/l Fresh water	Fish	96 hours
	NOEC 0,004 mg/l Marine water	Algae	96 hours
	NOEC 0,1 mg/l	Daphnia	21 days
	NOEC 0,02 mg/l Fresh water	Fish	35 days

ethane-1,2-diol: Based on available data, the classification criteria are not met.

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

12.2 Persistence and degradability

SECTION 12: Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
ethanediol; ethylene glycol	OECD 301C 301C Ready Biodegradability - Modified MITI Test (I)	96 % - 14 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
formic acid ethanediol; ethylene glycol reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	- - -	- - -	Readily Readily Inherent

formic acid: Readily biodegradable
ethane-1,2-diol: Readily biodegradable

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
formic acid ethanediol; ethylene glycol reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	-2,3 -1,36 0,75	- - <54	low low 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 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

SECTION 13: Disposal considerations

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.

European waste catalogue (EWC)

Waste code	Waste designation
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous 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.

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 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	UN3265	UN3265	UN3265	UN3265
14.2 UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (formic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (formic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (formic acid)	Corrosive liquid, acidic, organic, n.o.s. (formic acid)
14.3 Transport hazard class(es)	8 	8 	8 	8 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	No.	No.	No.

Additional information

ADR/RID : **Hazard identification number** 80
Limited quantity 5 L
Special provisions 274
Tunnel code (E)

ADN : **Special provisions** 274

IMDG : **Emergency schedules** F-A, S-B
Special provisions 223, 274

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 5 L. Packaging instructions: 852. Cargo Aircraft Only: 60 L. Packaging instructions: 856. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y841.
Special provisions A3, A803

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.

SECTION 14: Transport information

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 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.

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 not controlled under the Seveso Directive.

National regulations

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.

Inventory list

Australia : Not determined.

SECTION 15: Regulatory information

Canada	:	All components are listed or exempted.
China	:	All components are listed or exempted.
Eurasian Economic Union	:	**Russian Federation inventory**: All components are listed or exempted.
Japan	:	**Japan inventory (CSCL)**: All components are listed or exempted. **Japan inventory (ISHL)**: Not determined.
New Zealand	:	All components are listed or exempted.
Philippines	:	All components are listed or exempted.
Republic of Korea	:	All components are listed or exempted.
Taiwan	:	All components are listed or exempted.
Thailand	:	All components are listed or exempted.
Turkey	:	Not determined.
United States	:	All components are active or exempted.
Viet Nam	:	All components are listed or exempted.

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

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

Classification	Justification
Skin Irrit. 2, H315 Eye Irrit. 2, H319	Calculation method Calculation method

Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal 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.
H331	Toxic if inhaled.
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.
EUH071	Corrosive to the respiratory tract.

Full text of classifications [CLP/GHS]

SECTION 16: Other information

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
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Corr. 1A	SKIN CORROSION/IRRITATION - Category 1A
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

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Previous product name : Not available.

Version : 2