





GX² Stage 2 with Graphene

Date of compilation: 1/11/2023 Version: 1

SECTION 1: IDENTIFICATION

- 1.1 Product identifier:** GX² Stage 2 with Graphene
- Other means of identification:**
Non-applicable
- 1.2 Recommended uses and any restrictions on use or supply:**
Relevant uses: Water repeller; auxiliary product for the automotive; automotive applications. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Supplier's details:**
GARDX INTERNATIONAL LTD
LAKE HOUSE, 2 PORT WAY, PORT SOLENT,
PO6 4TY PORTSMOUTH - UNITED KINGDOM
Phone: +44 (0)1243 376426
product@gardx.co.uk
www.gardx.co.uk
- GardX New Zealand Limited
739 Chapel Road,
Howick,
Auckland,
New Zealand 2145
- 0800 242 739
- 1.4 Emergency phone number:** PC No. 0800 764 766. CNN: 1012486. For 24/7 multilingual advice for spill, leak, fire, exposure or accident, call chemtrec @ +65 3163 8374 or + 64 9 801 0034

SECTION 2: HAZARD IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
Hazardous Substances (Hazard Classification) Notice 2020.:
This product was classified in accordance with Hazardous Substances (Hazard Classification) Notice 2020.
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard, Category 2, H411
Flam. Liq. 3: Flammable liquids, Category 3, H226
STOT RE 1: Specific target organ toxicity — Repeated exposure, Hazard Category 1 (Inhalation), H372
STOT SE 3: Specific toxicity causing drowsiness and dizziness, single exposure, Category 3, H336
- 2.2 Label elements, including precautionary statements:**
Hazardous Substances (Hazard Classification) Notice 2020.:
Danger
- 



- Hazard statements:**
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Flam. Liq. 3: H226 - Flammable liquid and vapour.
STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure (Inhalation).
STOT SE 3: H336 - May cause drowsiness or dizziness.
- Precautionary statements:**
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260: Do not breathe vapours.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves.
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P501: Dispose of the contents/containers in accordance with the current legislation on waste treatment

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SECTION 2: HAZARD IDENTIFICATION (continued)

Substances that contribute to the classification

Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) (CAS: 64742-82-1) (10 - <30 %)

2.3 Other hazards which do not result in classification:

Non-applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances:

Non-applicable

3.2 Mixtures:

Chemical description: Wax/es

Components:

In accordance with Part B: Concentration cut-offs for ingredients in mixtures for purpose of section 3 of Consolidated Hazardous Substances (Safety Data Sheets) Notice 2017, the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 64742-82-1	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Flam. Liq. 3: H226; STOT RE 1: H372; STOT SE 3: H336 - Danger	10 - <30 %
CAS: 92704-41-1	Kaolin, calcined	<10 %
CAS: 61789-77-3	Quaternary ammonium compounds, dicoco alkylidimethyl, chlorides Acute Tox. 4: H302; Aquatic Acute 1: H400; Aquatic Chronic 2: H411; Skin Corr. 1B: H314 - Danger	<10 %
CAS: 25307-17-9	2,2'-(octadec-9-enylimino)bisethanol (2 EO) Acute Tox. 4: H302; Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Eye Dam. 1: H318; Skin Corr. 1B: H314 - Danger	<10 %
CAS: 123-86-4	N-butyl acetate Flam. Liq. 3: H226; STOT SE 3: H336 - Warning	<10 %
CAS: 1330-20-7	Xylene Acute Tox. 4: H312+H332; Aquatic Chronic 3: H412; Asp. Tox. 1: H304; Eye Irrit. 2: H319; Flam. Liq. 3: H226; Skin Irrit. 2: H315; STOT RE 2: H373; STOT SE 3: H335 - Danger	<10 %
CAS: 100-41-4	Ethylbenzene Acute Tox. 4: H332; Carc. 2: H351; Flam. Liq. 2: H225 - Danger	<10 %
CAS: 55406-53-6	3-iodo-2-propynyl Butylcarbamate Acute Tox. 4: H302+H332; Aquatic Acute 1: H400; Eye Dam. 1: H318; Skin Sens. 1: H317; STOT SE 3: H335 - Danger	<10 %
CAS: 67-63-0	propan-2-ol Eye Irrit. 2: H319; Flam. Liq. 2: H225; STOT SE 3: H336 - Danger	<10 %
CAS: 108-65-6	2-methoxy-1-methylethyl acetate Flam. Liq. 3: H226 - Warning	<10 %
CAS: 101-84-8	Diphenyl ether Aquatic Acute 1: H400; Aquatic Chronic 3: H412; Eye Irrit. 2: H319 - Warning	<10 %
CAS: 84-66-2	Diethyl phthalate	<10 %
CAS: 55965-84-9	Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) Acute Tox. 2: H310+H330; Acute Tox. 3: H301; Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Eye Dam. 1: H318; Skin Corr. 1C: H314; Skin Sens. 1A: H317 - Danger	<10 %
CAS: 67-56-1	methanol Acute Tox. 3: H301+H311+H331; Flam. Liq. 2: H225; STOT SE 1: H370 - Danger	<10 %
CAS: 108-88-3	Toluene Aquatic Chronic 3: H412; Asp. Tox. 1: H304; Flam. Liq. 2: H225; Repr. 2: H361; Skin Irrit. 2: H315; STOT RE 2: H373; STOT SE 3: H336 - Danger	<10 %

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

SECTION 4: FIRST-AID MEASURES

4.1 First aid instructions according to each relevant route of exposure;:

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SECTION 4: FIRST-AID MEASURES (continued)

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact:

This product is not classified as hazardous when in contact with the skin. However, in case of skin contact it is recommended to remove contaminated clothes and shoes, rinse the skin or shower the person affected if necessary thoroughly with cold water and neutral soap. In case of serious reaction consult a doctor.

By eye contact:

Rinse eyes thoroughly with water for at least 15 minutes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

4.2 Most important symptoms and effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of medical attention and its urgency:

Non-applicable

SECTION 5: FIRE-FIGHTING MEASURES**5.1 Information on the appropriate type of extinguishers or fire-fighting agents:****Appropriate type of extinguishers or fire-fighting agents:**

If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO₂).

Inappropriate type of extinguishers or fire-fighting agents:

IT IS RECOMMENDED NOT to use full jet water as an extinguishing agent.

5.2 Advice on specific hazards that may arise from the substance:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Special protective equipment and precautions for fire-fighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures:****For non-emergency personnel:**

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions from accidental spills and release::

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SECTION 6: ACCIDENTAL RELEASE MEASURES (continued)

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

6.3 Advice on how to contain and clean up a spill or release:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,...) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems and with the minimum requirements for protecting the security and health of workers. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Minimum Temp.: 4 °C

Maximum Temp.: 40 °C

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Occupational exposure limits:

Substances whose workplace exposure standards (WES) have to be monitored in the work environment:

Workplace exposure standards (WES) and biological exposure indices, Edition 12-1:

Identification	Occupational exposure limits		
Copper dinitrate CAS: 3251-23-8	TWA		0.01 mg/m ³
	STEL		
Diphenyl ether CAS: 101-84-8	TWA	1 ppm	7 mg/m ³
	STEL	2 ppm	14 mg/m ³
Diethyl phthalate CAS: 84-66-2	TWA		5 mg/m ³
	STEL		
methanol CAS: 67-56-1	TWA	200 ppm	262 mg/m ³
	STEL	250 ppm	328 mg/m ³

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Workplace exposure standards (WES) and biological exposure indices, Edition 12-1:

Identification	Occupational exposure limits		
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) CAS: 64742-82-1	TWA	400 ppm	1600 mg/m ³
	STEL		
Xylene CAS: 1330-20-7	TWA	50 ppm	217 mg/m ³
	STEL		
Ethylbenzene CAS: 100-41-4	TWA	100 ppm	434 mg/m ³
	STEL	125 ppm	543 mg/m ³
Toluene CAS: 108-88-3	TWA	50 ppm	188 mg/m ³
	STEL		
propan-2-ol CAS: 67-63-0	TWA	400 ppm	983 mg/m ³
	STEL	500 ppm	1230 mg/m ³
N-butyl acetate CAS: 123-86-4	TWA	150 ppm	713 mg/m ³
	STEL	200 ppm	950 mg/m ³


8.2 Engineering controls:

A.- Identification of the specific types of personal protective equipment


In accordance with the order of importance to control professional exposure it is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding the professional exposure limits. In case of using individual protection equipment. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For additional information see subsection 7.1.

All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection


Pictogram	PPE	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours (Filter type: A2)	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

C.- Specific protection for the hands


Pictogram	PPE	Remarks
 Mandatory hand protection	NON-disposable chemical protective gloves (Material: Nitrile, Breakthrough time: > 480 min, Thickness: 0.1 mm, Conditions of use: Normal)	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin.

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

D.- Eye and face protection

Pictogram	PPE	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Bodily protection

Pictogram	PPE	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks, with antistatic and fireproof properties	For professional use only. Clean periodically according to the manufacturer's instructions.
	Work clothing	Replace before any evidence of deterioration.


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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Pictogram	PPE	Remarks
 Mandatory foot protection	Safety footwear for protection against chemical risk, with antistatic and heat resistant properties	Replace boots at any sign of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:

Physical state at 20 °C:	Liquid
Appearance:	Emulsion
Colour:	Greenish
Odour:	Pleasant
Odour threshold:	Non-applicable *

Volatility:

Initial boiling point and boiling range:	112 °C
Vapour pressure at 20 °C:	2211 Pa
Vapour pressure at 50 °C:	11679.07 Pa (11.68 kPa)
Evaporation rate at 20 °C:	Non-applicable *

Product description:

Density at 20 °C:	Non-applicable *
Relative density at 20 °C:	0.958 - 0.978
Dynamic viscosity at 20 °C:	50000 - 60000 cP
Kinematic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 40 °C:	>20.5 mm ² /s
Concentration:	Non-applicable *
pH:	Non-applicable *
Vapour density at 20 °C:	Non-applicable *
Partition coefficient n-octanol/water 20 °C:	Non-applicable *
Solubility in water at 20 °C:	Non-applicable *
Solubility properties:	Insoluble in water
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *

Flammability:

Flash Point:	43 °C
Flammability (solid, gas):	Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Autoignition temperature: 202 °C
Lower flammability limit: Not available
Upper flammability limit: Not available
Particle characteristics:
Median equivalent diameter: Non-applicable

9.2 Other information:

Information with regard to physical hazard classes:

Explosive properties: Non-applicable *
Oxidising properties: Non-applicable *
Corrosive to metals: Non-applicable *
Heat of combustion: Non-applicable *
Aerosols-total percentage (by mass) of flammable components: Non-applicable *

Other safety characteristics:

Surface tension at 20 °C: Non-applicable *
Refraction index: Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Chemical reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 List of conditions to avoid or prevent a hazardous situation:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

10.5 Information on incompatible substances or materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Information on hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A- Ingestion (acute effect):

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

- Acute toxicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.
- B- Inhalation (acute effect):
 - Acute toxicity : Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.
 - Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.
- C- Contact with the skin and the eyes (acute effect):
 - Contact with the skin: Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for skin contact. For more information see section 3.
 - Contact with the eyes: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.
- D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):
 - Carcinogenicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous with carcinogenic effects. For more information see section 3.
 - Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
 - Reproductive toxicity: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.
- E- Sensitizing effects:
 - Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
 - Skin: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous with sensitising effects. For more information see section 3.
- F- Specific target organ toxicity (STOT) - single exposure:

Exposure in high concentration can cause a breakdown in the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.
- G- Specific target organ toxicity (STOT)-repeated exposure:
 - Specific target organ toxicity (STOT)-repeated exposure: Serious health effects in the case of prolonged inhalation, including death, serious functional disorders or morphological changes of toxicological importance.
 - Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- H- Aspiration hazard:

Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) CAS: 64742-82-1	LD50 oral	>5100 mg/kg	Rat
	LD50 dermal	>3160 mg/kg	Rabbit
	LC50 inhalation	>20 mg/L (4 h)	Rat
Quaternary ammonium compounds, dicoco alkylidimethyl, chlorides CAS: 61789-77-3	LD50 oral	960 mg/kg	Rat
	LD50 dermal	Non-applicable	
	LC50 inhalation	Non-applicable	
2,2'-(octadec-9-enylimino)bisethanol (2 EO) CAS: 25307-17-9	LD50 oral	1260 mg/kg	Rat
	LD50 dermal	Non-applicable	
	LC50 inhalation	Non-applicable	
N-butyl acetate CAS: 123-86-4	LD50 oral	12789 mg/kg	Rat
	LD50 dermal	14112 mg/kg	Rabbit
	LC50 inhalation	23.4 mg/L (4 h)	Rat

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
Xylene CAS: 1330-20-7	LD50 oral	2100 mg/kg	Rat
	LD50 dermal	1100 mg/kg	Rat
	LC50 inhalation	11 mg/L (4 h)	Rat
Ethylbenzene CAS: 100-41-4	LD50 oral	3500 mg/kg	Rat
	LD50 dermal	15354 mg/kg	Rabbit
	LC50 inhalation	17.2 mg/L (4 h)	Rat
3-iodo-2-propynyl Butylcarbamate CAS: 55406-53-6	LD50 oral	1100 mg/kg	Rat
	LD50 dermal	2100 mg/kg	Rabbit
	LC50 inhalation	Non-applicable	
propan-2-ol CAS: 67-63-0	LD50 oral	5280 mg/kg	Rat
	LD50 dermal	12800 mg/kg	Rat
	LC50 inhalation	72.6 mg/L (4 h)	Rat
2-methoxy-1-methylethyl acetate CAS: 108-65-6	LD50 oral	8532 mg/kg	Rat
	LD50 dermal	5100 mg/kg	Rat
	LC50 inhalation	30 mg/L (4 h)	Rat
Diphenyl ether CAS: 101-84-8	LD50 oral	>5000 mg/kg	Rat
	LD50 dermal	7940 mg/kg	Rabbit
	LC50 inhalation	Non-applicable	
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9	LD50 oral	64 mg/kg	Rat
	LD50 dermal	87.12 mg/kg	Rabbit
	LC50 inhalation	0.33 mg/L (4 h)	Rat
methanol CAS: 67-56-1	LD50 oral	100 mg/kg	
	LD50 dermal	300 mg/kg	
	LC50 inhalation	3 mg/L (4 h)	Rat
Toluene CAS: 108-88-3	LD50 oral	5580 mg/kg	Rat
	LD50 dermal	12124 mg/kg	Rat
	LC50 inhalation	28.1 mg/L (4 h)	Rat

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

Toxic to aquatic life with long lasting effects.

12.1 Ecotoxicity (aquatic and terrestrial):

Acute toxicity:

Identification	Concentration	Species	Genus
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) CAS: 64742-82-1	LC50 >1 - 10 mg/L (96 h)		Fish
	EC50 >1 - 10 mg/L (48 h)		Crustacean
	EC50 >1 - 10 mg/L (72 h)		Algae
Quaternary ammonium compounds, dicoco alkyldimethyl, chlorides CAS: 61789-77-3	LC50 >0.1 - 1 mg/L (96 h)		Fish
	EC50 >0.1 - 1 mg/L (48 h)		Crustacean
	EC50 >0.1 - 1 mg/L (72 h)		Algae
2,2'-(octadec-9-enylimino)bisethanol (2 EO) CAS: 25307-17-9	LC50 0.1 mg/L (96 h)	Danio rerio	Fish
	EC50 0.043 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 0.0867 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae
N-butyl acetate CAS: 123-86-4	LC50 Non-applicable		
	EC50 Non-applicable		
	EC50 675 mg/L (72 h)	Scenedesmus subspicatus	Algae
Xylene CAS: 1330-20-7	LC50 >10 - 100 mg/L (96 h)		Fish
	EC50 >10 - 100 mg/L (48 h)		Crustacean
	EC50 >10 - 100 mg/L (72 h)		Algae

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Concentration	Species	Genus
Ethylbenzene CAS: 100-41-4	LC50 42.3 mg/L (96 h)	Pimephales promelas	Fish
	EC50 75 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 63 mg/L (3 h)	Chlorella vulgaris	Algae
3-iodo-2-propynyl Butylcarbamate CAS: 55406-53-6	LC50 0.07 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50 0.09 mg/L (96 h)	Mysidopsis bahia	Crustacean
	EC50 0.05 mg/L (72 h)	Scenedesmus subspicatus	Algae
propan-2-ol CAS: 67-63-0	LC50 9640 mg/L (96 h)	Pimephales promelas	Fish
	EC50 13299 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 1000 mg/L (72 h)	Scenedesmus subspicatus	Algae
2-methoxy-1-methylethyl acetate CAS: 108-65-6	LC50 161 mg/L (96 h)	Pimephales promelas	Fish
	EC50 481 mg/L (48 h)	Daphnia sp.	Crustacean
	EC50 Non-applicable		
Diphenyl ether CAS: 101-84-8	LC50 >0.1 - 1 mg/L (96 h)		Fish
	EC50 >0.1 - 1 mg/L (48 h)		Crustacean
	EC50 >0.1 - 1 mg/L (72 h)		Algae
Diethyl phthalate CAS: 84-66-2	LC50 61 mg/L (48 h)	Leuciscus idus	Fish
	EC50 52 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 Non-applicable		
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9	LC50 >0.1 - 1 mg/L (96 h)		Fish
	EC50 >0.1 - 1 mg/L (48 h)		Crustacean
	EC50 >0.1 - 1 mg/L (72 h)		Algae
methanol CAS: 67-56-1	LC50 15400 mg/L (96 h)	Lepomis macrochirus	Fish
	EC50 12000 mg/L (96 h)	Nitrocras spinipes	Crustacean
	EC50 530 mg/L (168 h)	Microcystis aeruginosa	Algae
Toluene CAS: 108-88-3	LC50 13 mg/L (96 h)	Carassius auratus	Fish
	EC50 11.5 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 Non-applicable		

Chronic toxicity:

Identification	Concentration	Species	Genus
Quaternary ammonium compounds, dicoc alkylidimethyl, chlorides CAS: 61789-77-3	NOEC Non-applicable		
	NOEC 0.15 mg/L	Daphnia magna	Crustacean
2,2'-(octadec-9-enylimino)bisethanol (2 EO) CAS: 25307-17-9	NOEC Non-applicable		
	NOEC 0.0099 mg/L	Daphnia magna	Crustacean
N-butyl acetate CAS: 123-86-4	NOEC Non-applicable		
	NOEC 23.2 mg/L	Daphnia magna	Crustacean
Xylene CAS: 1330-20-7	NOEC 1.3 mg/L	Oncorhynchus mykiss	Fish
	NOEC 1.17 mg/L	Ceriodaphnia dubia	Crustacean
Ethylbenzene CAS: 100-41-4	NOEC Non-applicable		
	NOEC 0.96 mg/L	Ceriodaphnia dubia	Crustacean
3-iodo-2-propynyl Butylcarbamate CAS: 55406-53-6	NOEC 0.0084 mg/L	Pimephales promelas	Fish
	NOEC 0.0499 mg/L	Daphnia magna	Crustacean
2-methoxy-1-methylethyl acetate CAS: 108-65-6	NOEC 47.5 mg/L	Oryzias latipes	Fish
	NOEC 100 mg/L	Daphnia magna	Crustacean
Diethyl phthalate CAS: 84-66-2	NOEC 5 mg/L	Cyprinus carpio	Fish
	NOEC 25 mg/L	Daphnia magna	Crustacean
methanol CAS: 67-56-1	NOEC 15800 mg/L	Oryzias latipes	Fish
	NOEC 122 mg/L	Daphnia magna	Crustacean

12.2 Persistence and degradability:

Substance-specific information:

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Degradability		Biodegradability	
Quaternary ammonium compounds, dicoco alkylidimethyl, chlorides CAS: 61789-77-3	BOD5	Non-applicable	Concentration	Non-applicable
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	82 %
2,2'-(octadec-9-enylimino)bisethanol (2 EO) CAS: 25307-17-9	BOD5	Non-applicable	Concentration	10 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	88 %
N-butyl acetate CAS: 123-86-4	BOD5	Non-applicable	Concentration	Non-applicable
	COD	Non-applicable	Period	5 days
	BOD5/COD	Non-applicable	% Biodegradable	84 %
Xylene CAS: 1330-20-7	BOD5	Non-applicable	Concentration	Non-applicable
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	88 %
Ethylbenzene CAS: 100-41-4	BOD5	Non-applicable	Concentration	100 mg/L
	COD	Non-applicable	Period	14 days
	BOD5/COD	Non-applicable	% Biodegradable	90 %
propan-2-ol CAS: 67-63-0	BOD5	1.19 g O ₂ /g	Concentration	100 mg/L
	COD	2.23 g O ₂ /g	Period	14 days
	BOD5/COD	0.53	% Biodegradable	86 %
2-methoxy-1-methylethyl acetate CAS: 108-65-6	BOD5	Non-applicable	Concentration	785 mg/L
	COD	Non-applicable	Period	8 days
	BOD5/COD	Non-applicable	% Biodegradable	100 %
Diphenyl ether CAS: 101-84-8	BOD5	Non-applicable	Concentration	5.6 mg/L
	COD	Non-applicable	Period	20 days
	BOD5/COD	Non-applicable	% Biodegradable	76 %
Diethyl phthalate CAS: 84-66-2	BOD5	Non-applicable	Concentration	100 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	88 %
methanol CAS: 67-56-1	BOD5	Non-applicable	Concentration	100 mg/L
	COD	1.42 g O ₂ /g	Period	14 days
	BOD5/COD	Non-applicable	% Biodegradable	92 %
Toluene CAS: 108-88-3	BOD5	2.5 g O ₂ /g	Concentration	100 mg/L
	COD	Non-applicable	Period	14 days
	BOD5/COD	Non-applicable	% Biodegradable	100 %

12.3 Potential to be bioaccumulative:

Substance-specific information:

Identification	Bioaccumulation potential	
N-butyl acetate CAS: 123-86-4	BCF	4
	Pow Log	1.78
	Potential	Low
Xylene CAS: 1330-20-7	BCF	9
	Pow Log	2.77
	Potential	Low
Ethylbenzene CAS: 100-41-4	BCF	1
	Pow Log	3.15
	Potential	Low
3-iodo-2-propynyl Butylcarbamate CAS: 55406-53-6	BCF	36
	Pow Log	2.4
	Potential	Moderate
propan-2-ol CAS: 67-63-0	BCF	3
	Pow Log	0.05
	Potential	Low

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Bioaccumulation potential	
2-methoxy-1-methylethyl acetate CAS: 108-65-6	BCF	1
	Pow Log	0.43
	Potential	Low
Diphenyl ether CAS: 101-84-8	BCF	196
	Pow Log	4.21
	Potential	High
Diethyl phthalate CAS: 84-66-2	BCF	117
	Pow Log	2.07
	Potential	High
methanol CAS: 67-56-1	BCF	3
	Pow Log	-0.77
	Potential	Low
Toluene CAS: 108-88-3	BCF	90
	Pow Log	2.73
	Potential	Moderate

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
2,2'-(octadec-9-enylimino)bisethanol (2 EO) CAS: 25307-17-9	Koc	Non-applicable	Henry	Non-applicable
	Conclusion	Non-applicable	Dry soil	Non-applicable
	Surface tension	2.8E-2 N/m (25 °C)	Moist soil	Non-applicable
N-butyl acetate CAS: 123-86-4	Koc	Non-applicable	Henry	Non-applicable
	Conclusion	Non-applicable	Dry soil	Non-applicable
	Surface tension	2.478E-2 N/m (25 °C)	Moist soil	Non-applicable
Xylene CAS: 1330-20-7	Koc	202	Henry	524.86 Pa·m ³ /mol
	Conclusion	Moderate	Dry soil	Yes
	Surface tension	Non-applicable	Moist soil	Yes
Ethylbenzene CAS: 100-41-4	Koc	520	Henry	798.44 Pa·m ³ /mol
	Conclusion	Moderate	Dry soil	Yes
	Surface tension	2.859E-2 N/m (25 °C)	Moist soil	Yes
propan-2-ol CAS: 67-63-0	Koc	1.5	Henry	8.207E-1 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	Yes
	Surface tension	2.24E-2 N/m (25 °C)	Moist soil	Yes
Diphenyl ether CAS: 101-84-8	Koc	1960	Henry	Non-applicable
	Conclusion	Low	Dry soil	Non-applicable
	Surface tension	1.753E-2 N/m (258.4 °C)	Moist soil	Non-applicable
Diethyl phthalate CAS: 84-66-2	Koc	Non-applicable	Henry	6.181E-2 Pa·m ³ /mol
	Conclusion	Non-applicable	Dry soil	No
	Surface tension	3.699E-2 N/m (25 °C)	Moist soil	No
methanol CAS: 67-56-1	Koc	Non-applicable	Henry	Non-applicable
	Conclusion	Non-applicable	Dry soil	Non-applicable
	Surface tension	2.355E-2 N/m (25 °C)	Moist soil	Non-applicable
Toluene CAS: 108-88-3	Koc	178	Henry	672.8 Pa·m ³ /mol
	Conclusion	Moderate	Dry soil	Yes
	Surface tension	2.793E-2 N/m (25 °C)	Moist soil	Yes

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

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SECTION 13: DISPOSAL CONSIDERATIONS (continued)
13.1 Appropriate and achievable disposal methods:
Special precautions to be taken during disposal:

Consult the authorized waste service manager on the assessment and disposal operations. In case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. Waste should not be disposed of to drains. See epigraph 6.2.

Regulations related to waste management:

Legislation related to waste management:

Consolidated Imports and Exports (Restrictions) Prohibition Order (No 2) 2004
 Consolidated Hazardous Substances (Disposal) Notice 2017

SECTION 14: TRANSPORT INFORMATION
Transport of dangerous goods by land:

With regard to NZS 5433.1:2012 Transport of dangerous goods on land



14.1 UN number:	UN1993
14.2 UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%))
14.3 UN dangerous goods class and subsidiary risk:	3
Labels:	3
14.4 UN Packing Group:	III
14.5 Environmental hazards:	Yes
14.6 Special precautions for user	
Physico-Chemical properties:	see section 9
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Non-applicable

Transport of dangerous goods by sea:

With regard to IMDG 40-20:



14.1 UN number:	UN1993
14.2 UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%))
14.3 UN dangerous goods class and subsidiary risk:	3
Labels:	3
14.4 UN Packing Group:	III
14.5 Marine pollutant:	Yes
14.6 Special precautions for user	
Special regulations:	274, 223, 955
EmS Codes:	F-E, S-E
Physico-Chemical properties:	see section 9
Limited quantities:	5 L
Segregation group:	Non-applicable
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Non-applicable

Transport of dangerous goods by air:

With regard to IATA/ICAO 2023:

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SECTION 14: TRANSPORT INFORMATION (continued)



14.1 UN number:	UN1993
14.2 UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%))
14.3 UN dangerous goods class and subsidiary risk:	3
Labels:	3
14.4 UN Packing Group:	III
14.5 Environmental hazards:	Yes
14.6 Special precautions for user	
Physico-Chemical properties:	see section 9
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Non-applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

- Substances listed in the Montreal Protocol: Non-applicable
- Substances listed in the Rotterdam Convention: Non-applicable
- Substances listed in the Stockholm Convention: Non-applicable

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Relevant regulatory requirements:

Health and Safety at Work (Hazardous Substances) Regulations 2017
 Health and Safety at Work Act 2015
 Consolidated Hazardous Substances (Labelling) Notice 2017
 Consolidated Hazardous Substances (Packaging) Notice 2017
 Consolidated Hazardous Substances (Hazardous Property Controls) Notice 2017
 Consolidated Hazardous Substances (Importers and Manufacturers) Notice 2015

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Schedule: Content and format of safety data sheets (clause 7) of Consolidated Hazardous Substances (Safety Data Sheets) Notice 2017

Texts of the legislative phrases mentioned in section 2:

H411: Toxic to aquatic life with long lasting effects.
 H336: May cause drowsiness or dizziness.
 H372: Causes damage to organs through prolonged or repeated exposure (Inhalation).
 H226: Flammable liquid and vapour.

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

Hazardous Substances (Hazard Classification) Notice 2020.:

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SECTION 16: OTHER INFORMATION (continued)

Acute Tox. 2: H310+H330 - Fatal in contact with skin or if inhaled.
Acute Tox. 3: H301 - Toxic if swallowed.
Acute Tox. 3: H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled.
Acute Tox. 4: H302 - Harmful if swallowed.
Acute Tox. 4: H302+H332 - Harmful if swallowed or if inhaled.
Acute Tox. 4: H312+H332 - Harmful in contact with skin or if inhaled.
Acute Tox. 4: H332 - Harmful if inhaled.
Aquatic Acute 1: H400 - Very toxic to aquatic life.
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.
Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.
Carc. 2: H351 - Suspected of causing cancer.
Eye Dam. 1: H318 - Causes serious eye damage.
Eye Irrit. 2: H319 - Causes serious eye irritation.
Flam. Liq. 2: H225 - Highly flammable liquid and vapour.
Flam. Liq. 3: H226 - Flammable liquid and vapour.
Repr. 2: H361 - Suspected of damaging fertility or the unborn child.
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.
Skin Corr. 1C: H314 - Causes severe skin burns and eye damage.
Skin Irrit. 2: H315 - Causes skin irritation.
Skin Sens. 1: H317 - May cause an allergic skin reaction.
Skin Sens. 1A: H317 - May cause an allergic skin reaction.
STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure (Inhalation).
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure (Oral).
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure.
STOT SE 1: H370 - Causes damage to organs.
STOT SE 3: H335 - May cause respiratory irritation.
STOT SE 3: H336 - May cause drowsiness or dizziness.

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

<https://www.epa.govt.nz/>

Abbreviations and acronyms:

HSNO Act: Hazardous substances and new organisms Act
IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
COD: Chemical Oxygen Demand
BOD5: 5-day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
CL50: Lethal Concentration 50
EC50: Effective concentration 50
Log-POW: Octanol-water partition coefficient
Koc: Partition coefficient of organic carbon
IARC: International Agency for Research on Cancer

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

END OF SAFETY DATA SHEET

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