

SAFETY DATA SHEET



according to Workplace Safety and Health Regulations Singapore
Stainless Steel Spray

Section 1. Identification

Product identifier : Stainless Steel Spray
Product code : 111000

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

Aerosol product

Supplier's details : WEICON GmbH & Co. KG
Königsberger Str. 255
48157 Münster
Germany
Phone: +49 251 93220
Fax: +49(0)251 / 9322 - 244
Internet: www.weicon.de

e-mail address of person responsible for this SDS : msds@weicon.de

Emergency telephone number : EMERGENCY CONTACT – UK, UAE, South Africa (24h): Tel: ++44 1865 407333 (English)
TRANSPORT EMERGENCY CONTACT - UK, UAE, South Africa (24h): Tel: ++44 1865 407333 (English)

Section 2. Hazards identification

Classification of the substance or mixture : AEROSOLS - Category 1
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements, including precautionary statements

Hazard pictograms :   

Signal word : Danger

Hazard statements : H222, H229 - Extremely flammable aerosol. Pressurized container: may burst if heated.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P280 - Wear eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 - Do not spray on an open flame or other ignition source.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P261 - Avoid breathing dust or mist.
P264 - Wash thoroughly after handling.
P251 - Do not pierce or burn, even after use.

Section 2. Hazards identification

- Response** : P391 - Collect spillage.
P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
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** : P405 - Store locked up.
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : P501 - Dispose of waste according to applicable legislation.

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

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
acetone	≥10 - ≤25	67-64-1
Solvent naphtha (petroleum), light arom.	≤10	64742-95-6
ethyl acetate	≤10	141-78-6
xylene isomers mixture	<10	1330-20-7
Naphtha (petroleum), hydrotreated heavy	≤10	64742-48-9
nickel	<1	7440-02-0
methyl methacrylate [stable]	<1	80-62-6
n-butyl methacrylate [stable]	<1	97-88-1

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 and hence require reporting in this section.

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

Chemical formula : Not applicable.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If 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. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

Ingestion : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact : No known significant effects or critical hazards.
Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

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

Inhalation : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness

Skin contact : No specific data.
Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

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

Unsuitable extinguishing media : None known.

Section 5. Fire-fighting measures

- Specific hazards arising from the chemical** : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. 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 thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

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. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. 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".
- 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.

Methods and materials for containment and cleaning up

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Section 7. Handling and storage

- 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.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store away 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. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
acetone	Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 750 ppm 8 hours. PEL (long term): 1780 mg/m ³ 8 hours. PEL (short term): 2380 mg/m ³ 15 minutes. PEL (short term): 1000 ppm 15 minutes.
ethyl acetate	Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 400 ppm 8 hours. PEL (long term): 1440 mg/m ³ 8 hours.
xylene isomers mixture	Workplace Safety and Health Act (Singapore, 2/2006). [Xylene] PEL (long term): 100 ppm 8 hours. PEL (long term): 434 mg/m ³ 8 hours. PEL (short term): 651 mg/m ³ 15 minutes. PEL (short term): 150 ppm 15 minutes.
nickel	Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 1 mg/m ³ 8 hours.
methyl methacrylate [stable]	Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 100 ppm 8 hours. PEL (long term): 410 mg/m ³ 8 hours.

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

Individual protection measures

Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying 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.
- Skin 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. Recommended : 1 - 4 hours (breakthrough time): nitrile rubber 4 - 8 hours (breakthrough time): Viton®/butyl rubber
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : 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. Recommended : organic vapor (Type AX) and particulate filter

Section 9. Physical and chemical properties

Appearance

- Physical state** : Aerosol.
- Color** : Silver.
- Odor** : Solvent. Sweetish.
- Odor threshold** : Not available.
- pH** : No results available.
- Melting point/freezing point** : -24°C (-11.2°F)
- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** : Closed cup: Not applicable.
- Fire point** : >200°C (>392°F)
- Evaporation rate** : Not available.
- Flammability** : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Flammable in the presence of the following materials or conditions: heat.
- Lower and upper explosion limit/flammability limit** : Lower: 1.5%
Upper: 10.9%
- Vapor pressure** :

Section 9. Physical and chemical properties

Ingredient name	Vapor Pressure at 20 °C			Vapor pressure at 50 °C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
propane	6300.51	840				
butane	1602.88	213.7				
acetone	180.01	24				
ethyl acetate	81.59	10.9				
methyl methacrylate [stable]	27.75	3.7				
xylene isomers mixture	6.7	0.89				
n-butyl methacrylate [stable]	1.59	0.21	OECD 104			
Naphtha (petroleum), hydrotreated heavy	0.75 to 2.25	0.1 to 0.3				

Relative vapor density : Not available.

Relative density : Not available.

Solubility(ies) :
Not available.

Solubility in water : Not available.

Miscible with water : No.

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

Auto-ignition temperature : Not applicable.

Decomposition temperature : Not available.

Heat of combustion : 28.71 kJ/g

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

Aerosol product

Type of aerosol : Spray

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SADT : Not available.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
acetone	LD50 Oral	Rat	5800 mg/kg	-
ethyl acetate	LD50 Oral	Rat	5620 mg/kg	-
xylene isomers mixture	LD50 Oral	Mouse	2119 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LDLo Oral	Human	50 mg/kg	-
	LDLo Oral	Human	50 mg/kg	-
	TDL0 Dermal	Mouse	727.3 uL/kg	-
	TDL0 Dermal	Rabbit	4300 mg/kg	-
	Naphtha (petroleum), hydrotreated heavy	LC50 Inhalation Vapor	Rat	8500 mg/m ³
methyl methacrylate [stable]	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	7872 mg/kg	-
n-butyl methacrylate [stable]	LC50 Inhalation Gas.	Rat	4910 ppm	4 hours
	LD50 Oral	Rat	16 g/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
acetone	Eyes - Mild irritant	Human	-	186300 ppm	-
	Eyes - Mild irritant	Rabbit	-	10 uL	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Skin - Mild irritant	Rabbit	-	395 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
xylene isomers mixture	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	n-butyl methacrylate [stable]	Skin - Mild irritant	Rabbit	-	500 uL

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Section 11. Toxicological information

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
acetone	Category 3	-	Narcotic effects
Solvent naphtha (petroleum), light arom.	Category 3	-	Respiratory tract irritation
ethyl acetate	Category 3	-	Narcotic effects
Naphtha (petroleum), hydrotreated heavy	Category 3	-	Narcotic effects
methyl methacrylate [stable]	Category 3	-	Respiratory tract irritation
n-butyl methacrylate [stable]	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
nickel	Category 1	-	-

Aspiration hazard

Name	Result
Solvent naphtha (petroleum), light arom.	ASPIRATION HAZARD - Category 1
Naphtha (petroleum), hydrotreated heavy	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : No known significant effects or critical hazards.

Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

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

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

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)
acetone	5800	N/A	N/A	N/A	N/A
ethyl acetate	5620	N/A	N/A	N/A	N/A
methyl methacrylate [stable]	7872	N/A	N/A	N/A	N/A
n-butyl methacrylate [stable]	16000	N/A	4910	N/A	N/A

Acute toxicity estimates

Route	ATE value
Not available.	

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
acetone	Acute EC50 11493300 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 11727900 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 4.42589 ml/L Marine water	Crustaceans - Acartia tonsa - Copepodid	48 hours
	Acute LC50 7550000 µg/l Fresh water	Crustaceans - Asellus aquaticus	48 hours
	Acute LC50 8098000 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 11.26487 ml/L Fresh water	Crustaceans - Gammarus pulex - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours	

Section 12. Ecological information

	Acute LC50 7460000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 7810000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 9218000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 8800000 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 8000 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 7280000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 8120000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 6210000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 0.5 ml/L Marine water	Algae - Karenia brevis	96 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Skeletonema costatum	72 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Skeletonema costatum	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
ethyl acetate	Acute EC50 2500000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 750000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 154000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 212500 µg/l Fresh water	Fish - Heteropneustes fossilis	96 hours
	Chronic NOEC 2400 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 75.6 mg/l Fresh water	Fish - Pimephales promelas - Embryo	32 days
xylene isomers mixture	Acute EC50 90 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 8.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 16940 µg/l Fresh water	Fish - Carassius auratus	96 hours
	Acute LC50 15700 µg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 20870 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours

Section 12. Ecological information

nickel	Acute LC50 19000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 2 ppm Marine water	Algae - Macrocystis pyrifera - Young	4 days
	Acute EC50 450 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 1000 µg/l Marine water	Daphnia - Daphnia magna	48 hours
	Acute IC50 0.31 mg/l Marine water	Crustaceans - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 47.5 ng/L Fresh water	Fish - Heteropneustes fossilis	96 hours
methyl methacrylate [stable]	Chronic NOEC 100 mg/l Marine water	Algae - Glenodinium halli	72 hours
	Chronic NOEC 3.5 µg/l Fresh water	Fish - Cyprinus carpio	4 weeks
n-butyl methacrylate [stable]	Acute LC50 130000 µg/l Fresh water	Fish - Pimephales promelas - Adult	96 hours
	Chronic NOEC 2.6 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days

Persistence/degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
acetone	-0.23	-	low
Solvent naphtha (petroleum), light arom.	-	10 to 2500	high
ethyl acetate	0.68	30	low
xylene isomers mixture	3.12	8.1 to 25.9	low
Naphtha (petroleum), hydrotreated heavy	-	10 to 2500	high
methyl methacrylate [stable]	1.38	-	low
n-butyl methacrylate [stable]	2.99	-	low

Mobility in soil





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

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

Section 13. Disposal considerations

Disposal methods : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	UN	IMDG	IATA	ADR/RID
UN number	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	Aerosols, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2 
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.

Additional information

UN	: Special provisions 63, 190, 277, 327, 344, 381
IMDG	: Emergency schedules F-D, S-U Special provisions 63, 190, 277, 327, 344, 381, 959
IATA	: Quantity limitation Passenger and Cargo Aircraft: 75 kg. Packaging instructions: 203. Cargo Aircraft Only: 150 kg. Packaging instructions: 203. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y203. Special provisions A145, A167, A802
ADR/RID	: Limited quantity 1 L Special provisions 190, 327, 625, 344 Tunnel code (D) ADR Classification Code: 5F

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.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Singapore - hazardous chemicals under government control

None.

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

Section 15. Regulatory information

Australia	: All components are listed or exempted.
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	: All components are listed or exempted.
United States	: All components are active or exempted.
Viet Nam	: All components are listed or exempted.

Section 16. Other information

History

Date of printing	: 5/14/2023
Date of issue/Date of revision	: 5/4/2023
Date of previous issue	: No previous validation
Version	: 2.03

Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available SGG = Segregation Group UN = United Nations
-----------------------------	--

Procedure used to derive the classification

Classification	Justification
AEROSOLS - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 AQUATIC HAZARD (LONG-TERM) - Category 1	On basis of test data Calculation method Calculation method Calculation method

References	: Not available.
-------------------	------------------

✓ Indicates information that has changed from previously issued version.

Notice to reader

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.