METAL REPAIR FLUID PART B

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS 2024)
Date of issue: 6/24/2026 Supersedes: 6/24/2026 Version: 1.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product code : METAL REPAIR FLUID PART B

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Restrictions on use : For professional use only

1.4. Supplier's details

RR&C
P.O. Box 67000
Detroit, MI 48267-2791
United States
T 1-216-515-7712

1.5. Emergency phone number

Emergency number : CHEMTREC 1-800-424-9300

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation, Category 1	H314	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.
Respiratory sensitization, Category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, Category 1	H317	May cause an allergic skin reaction.
Specific target organ toxicity — Repeated exposure, Category 1	H372	Causes damage to organs through prolonged or repeated exposure.

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H372 - Causes damage to organs through prolonged or repeated exposure
Precautionary statements (GHS US) : P260 - Do not breathe dusts or mists.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P272 - Contaminated work clothing must not be allowed out of the workplace.

P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
P284 - Wear respiratory protection.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P302+P352 - If on skin: Wash with plenty of water.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a poison center or doctor.
P314 - Get medical advice or attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P333+P313 - If skin irritation or rash occurs: Get medical advice or attention.
P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Take off immediately all contaminated clothing and wash it before reuse.
P405 - Store locked up.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Fatty acid, tall-oil,...	CAS-No.: 68605-86-7	10 - 30*	Skin Corr. 1, H314 Eye Dam. 1, H318
m-phenylenebis(methylamine)	CAS-No.: 1477-55-0	5 - 13*	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317
benzyl alcohol	CAS-No.: 100-51-6	5 - 13*	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Eye Irrit. 2, H319 Skin Sens. 1B, H317

Name	Product identifier	%	GHS US classification
4-nonylphenol, branched	CAS-No.: 84852-15-3	0.5 - 5*	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT RE 2, H373
3-aminopropyltriethoxysilane	CAS-No.: 919-30-2	1 - 7*	Flam. Liq. 4, H227 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT RE 1, H372
3,6,9-triazaundecamethylenediamine, tetraethylenepentamine	CAS-No.: 112-57-2	0.1 – 5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1, H317
ethylenediamine, 1,2-diaminoethane	CAS-No.: 107-15-3	< 1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Corr. 1, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT RE 2, H373

Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

Personal protection for first-aid responders. : First aid workers will be equipped with suitable personal protective equipment.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact : Burns. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Burns.

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

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	:	No fire hazard.
Explosion hazard	:	No direct explosion hazard.
Hazardous decomposition products in case of fire	:	Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	:	Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	:	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

For non-emergency personnel

Protective equipment	:	Wear recommended personal protective equipment.
Emergency procedures	:	Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Evacuate unnecessary personnel. Stop leak if safe to do so.
Environmental precautions	:	Avoid release to the environment.

6.2. Methods and materials for containment and cleaning up

For containment	:	Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
Methods for cleaning up	:	Take up liquid spill into absorbent material.
Other information	:	Dispose of materials or solid residues at an authorized site.

For further information refer to section 13.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Ensure good ventilation of the work station. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures	:	Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	:	Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including incompatibilities

Technical measures	:	Keep in a cool, well-ventilated place away from heat.
Storage conditions	:	Store locked up.
Packaging materials	:	Always store product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

m-phenylenebis(methylamine) (1477-55-0)	
USA - ACGIH - Occupational Exposure Limits	
Local name	m-Xylene α,α'-diamine
ACGIH OEL Ceiling	0.018 ppm
Remark (ACGIH®)	TLV® Basis: Eye, GI & Skin irr. Notations: Skin
Regulatory reference	ACGIH 2026
USA - Cal/OSHA - Occupational Exposure Limits	
Local name	m-Xylene-a,a'-diamine
Cal/OSHA C	0.1 mg/m³
Remark (Cal/OSHA)	S - Skin notation and Protecting Clothing
Regulatory reference	California Division of Occupational Safety and Health (Cal/OSHA) - Permissible Exposure Limit for Chemical Contaminants (Table AC-1)

ethylenediamine, 1,2-diaminoethane (107-15-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethylenediamine
ACGIH® TLV® TWA	25 mg/m³
	10 ppm
Remark (ACGIH®)	TLV® Basis: Skin & Resp Tract irr. Notations: Skin; A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2026
USA - OSHA - Occupational Exposure Limits	
Local name	Ethylenediamine
OSHA PEL TWA	25 mg/m³
	10 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - Cal/OSHA - Occupational Exposure Limits	
Local name	Ethylenediamine; 1,2-diaminoethane
Cal/OSHA PEL (OEL TWA)	25 mg/m³
	10 ppm
Regulatory reference	California Division of Occupational Safety and Health (Cal/OSHA) - Permissible Exposure Limit for Chemical Contaminants (Table AC-1)
USA - NIOSH - Occupational Exposure Limits	
Local name	Ethylenediamine [1,2-Diaminoethane]
NIOSH REL 10h TWA	10 ppm
Regulatory reference (US-NIOSH)	OSHA Annotated Table Z-1 (NIOSH Pocket Guide to Chemical Hazards (NPG))

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Color	:	Various colors
Odor	:	Amine-like
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	200 °F (>93.3 C) estimated
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Density	:	8.25 lb/gal
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Explosion limits	:	No data available
Particle characteristics	:	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

m-phenylenebis(methylamine) (1477-55-0)	
LD50 oral rat	930 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 3100 mg/kg body weight (24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	1.34 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (mist), 14 day(s))
ATE US (oral)	930 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	1.34 mg/l/4h
ATE US (dust, mist)	1.34 mg/l/4h

benzyl alcohol (100-51-6)	
LD50 oral rat	1620 mg/kg body weight (Rat, Male, Experimental value, Oral, 14 day(s))
LD50 oral	1580 mg/kg body weight Animal: mouse, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1410 - 1770
LD50 dermal rabbit	> 2000 mg/kg (Rabbit, Experimental value, Dermal)
LC50 Inhalation - Rat	> 4.18 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, (maximum achievable concentration), Inhalation (aerosol), 14 day(s))
ATE US (oral)	1580 mg/kg body weight
ATE US (dust, mist)	1.5 mg/l/4h

4-nonylphenol, branched (84852-15-3)	
LD50 oral rat	1412 mg/kg body weight (Rat, Male / female, Experimental value, Oral, 14 day(s))
ATE US (oral)	1412 mg/kg body weight

ethylenediamine, 1,2-diaminoethane (107-15-3)	
LD50 oral rat	866 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	560 mg/kg body weight (24 h, Rabbit, Male, Experimental value, Dermal)
LC50 Inhalation - Rat	14.7 mg/l air (4 h, Rat, Male, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	866 mg/kg body weight
ATE US (dermal)	560 mg/kg body weight
ATE US (vapors)	14.7 mg/l/4h
ATE US (dust, mist)	14.7 mg/l/4h

3,6,9-triazaundecamethylenediamine, tetraethylenepentamine (112-57-2)	
LC50 Inhalation - Rat	> 9.9 mg/l air (8 h, Rat, Male, Literature study, Inhalation)
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight

3-aminopropyltriethoxysilane (919-30-2)	
LD50 oral rat	1.57 – 2.83 ml/kg (EPA OTS 798.1175, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	4.29 ml/kg (EPA OTS 798.1100, 24 h, Rabbit, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat [ppm]	> 5 ppm (OECD 403: Acute Inhalation Toxicity, 6 h, Rat, Male, Experimental value, Inhalation (vapours))
ATE US (oral)	2090 mg/kg body weight
ATE US (dermal)	4075.5 mg/kg body weight

Skin corrosion/irritation : Causes severe skin burns.

m-phenylenebis(methylamine) (1477-55-0)	
pH	11.8 (10 %, OECD 105: Water Solubility)

benzyl alcohol (100-51-6)	
pH	No data available in the literature

4-nonylphenol, branched (84852-15-3)	
pH	No data available in the literature

ethylenediamine, 1,2-diaminoethane (107-15-3)	
pH	12.2 (100 g/l, 20 °C)

3,6,9-triazaundecamethylenediamine, tetraethylenepentamine (112-57-2)	
pH	11.8 (2 %, 20 °C)

Serious eye damage/irritation : Causes serious eye damage.

m-phenylenebis(methylamine) (1477-55-0)	
pH	11.8 (10 %, OECD 105: Water Solubility)

benzyl alcohol (100-51-6)	
pH	No data available in the literature

4-nonylphenol, branched (84852-15-3)	
pH	No data available in the literature

ethylenediamine, 1,2-diaminoethane (107-15-3)	
pH	12.2 (100 g/l, 20 °C)

3,6,9-triazaundecamethylenediamine, tetraethylenepentamine (112-57-2)	
pH	11.8 (2 %, 20 °C)

Respiratory or skin sensitization : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

4-nonylphenol, branched (84852-15-3)	
NOAEL (animal/female, F0/P)	15 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
NOAEL (animal/male, F1)	15 mg/kg body weight Animal: rat, Animal sex: male, Guideline: other:

STOT-single exposure : Not classified

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

benzyl alcohol (100-51-6)	
NOAEL (oral,rat,90 days)	400 mg/kg body weight Animal: rat, Guideline: other:

4-nonylphenol, branched (84852-15-3)	
LOAEL (oral,rat,90 days)	400 mg/kg body weight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEL (oral,rat,90 days)	100 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

ethylenediamine, 1,2-diaminoethane (107-15-3)	
LOAEL (oral,rat,90 days)	114 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral,rat,90 days)	22 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

3-aminopropyltriethoxysilane (919-30-2)	
LOAEL (oral,rat,90 days)	600 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
LOAEL (dermal,rat/rabbit,90 days)	17 mg/kg body weight Animal: rabbit
NOAEL (oral,rat,90 days)	200 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

3-aminopropyltriethoxysilane (919-30-2)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

m-phenylenebis(methylamine) (1477-55-0)	
Viscosity, kinematic	6.78 mm²/s (20 °C, OECD 114: Viscosity of Liquids)

benzyl alcohol (100-51-6)	
Viscosity, kinematic	No data available in the literature

4-nonylphenol, branched (84852-15-3)	
Viscosity, kinematic	2440 mm²/s (20 °C, Calculated)

ethylenediamine, 1,2-diaminoethane (107-15-3)	
Viscosity, kinematic	No data available in the literature

3,6,9-triazaundecamethylenediamine, tetraethylenepentamine (112-57-2)	
Viscosity, kinematic	0.096 mm²/s (20 °C)

3-aminopropyltriethoxysilane (919-30-2)	
Viscosity, kinematic	1.8 mm²/s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm²/s)'

Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact : Burns. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Burns.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

m-phenylenebis(methylamine) (1477-55-0)	
LC50 - Fish [1]	88 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oryzias latipes, Semi-static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	15 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	20.3 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	33.3 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
ErC50 algae	33 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Experimental value, Nominal concentration)
LOEC (chronic)	15 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	4.7 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

benzyl alcohol (100-51-6)	
LC50 - Fish [1]	≥ 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oryzias latipes, Flow-through system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	230 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 72h - Algae [1]	770 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	500 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	76.828 mg/l Test organisms (species): other:
ErC50 algae	759 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC chronic fish	48.897 mg/l Test organisms (species): other: Duration: '30 d'

4-nonylphenol, branched (84852-15-3)	
EC50 - Crustacea [1]	84 µg/l (ASTM E729-88, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Lethal)
EC50 72h - Algae [1]	0.33 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	0.027 mg/l (EPA OTS 797.1050, Skeletonema costatum, Static system, Salt water, Experimental value, Cell numbers)
EC50 96h - Algae [2]	0.41 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC chronic fish	0.006 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '91 d'

ethylenediamine, 1,2-diaminoethane (107-15-3)	
LC50 - Fish [1]	640 mg/l (EU Method C.1, 96 h, Poecilia reticulata, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	16.7 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	71 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	645 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
ErC50 algae	645 mg/l (EU Method C.3, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
NOEC (chronic)	0.16 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 10 mg/l Test organisms (species): Gasterosteus aculeatus Duration: '28 d'

3,6,9-triazaundecamethylenediamine, tetraethylenepentamine (112-57-2)	
LC50 - Fish [1]	420 mg/l (EU Method C.1, 96 h, Poecilia reticulata, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	24 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Experimental value, GLP)
ErC50 algae	6.8 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Experimental value)

3-aminopropyltriethoxysilane (919-30-2)	
LC50 - Fish [1]	> 934 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	331 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 algae	> 1000 mg/l (EU Method C.3, 72 h, Scenedesmus subspicatus, Static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

METAL REPAIR FLUID PART B	
Persistence and degradability	Not rapidly degradable

m-phenylenebis(methylamine) (1477-55-0)	
Persistence and degradability	Not readily biodegradable in water.

benzyl alcohol (100-51-6)	
Persistence and degradability	Biodegradable in the soil, Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.6 g O_2/g substance
Chemical oxygen demand (COD)	2.4 g O_2/g substance
ThOD	2.5 g O_2/g substance

4-nonylphenol, branched (84852-15-3)	
Persistence and degradability	Not readily biodegradable in water.

ethylenediamine, 1,2-diaminoethane (107-15-3)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.01 g O_2/g substance
Chemical oxygen demand (COD)	1.3 g O_2/g substance
ThOD	1.33 g O_2/g substance

3,6,9-triazaundecamethylenediamine, tetraethylenepentamine (112-57-2)	
Persistence and degradability	Not readily biodegradable in water.

Fatty acid, tall-oil,... (68605-86-7)	
Persistence and degradability	Not rapidly degradable

3-aminopropyltriethoxysilane (919-30-2)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

m-phenylenebis(methylamine) (1477-55-0)	
Partition coefficient n-octanol/water (Log Pow)	0.18 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

benzyl alcohol (100-51-6)	
Partition coefficient n-octanol/water (Log Pow)	1.1 (Experimental value, 20 °C)

benzyl alcohol (100-51-6)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

4-nonylphenol, branched (84852-15-3)	
BCF - Fish [1]	1200 – 1300 (Equivalent or similar to OECD 305, 16 day(s), Gasterosteus aculeatus, Flow-through system, Salt water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	5.4 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 23 °C)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

ethylenediamine, 1,2-diaminoethane (107-15-3)	
Partition coefficient n-octanol/water (Log Pow)	-1.62 (Calculated, KOWWIN, 25 °C)
Bioaccumulative potential	Not bioaccumulative.

3,6,9-triazaundecamethylenediamine, tetraethylenepentamine (112-57-2)	
BCF - Other aquatic organisms [1]	3.2 l/kg (BCFBAF v3.01, Estimated value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	1.5 (Literature study)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

3-aminopropyltriethoxysilane (919-30-2)	
BCF - Fish [1]	3.4 (OECD 305: Bioconcentration: Flow-Through Fish Test, 8 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	1.7 (QSAR, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

m-phenylenebis(methylamine) (1477-55-0)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.1 (log Koc, QSAR)
Ecology - soil	Low potential for mobility in soil.

benzyl alcohol (100-51-6)	
Surface tension	39 mN/m (20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.1 – 1.3 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

4-nonylphenol, branched (84852-15-3)	
Surface tension	38.9 mN/m (20 °C, 90 vol %, EU Method A.5: Surface tension)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4 (log Koc, Calculated value)
Ecology - soil	Low potential for mobility in soil.

ethylenediamine, 1,2-diaminoethane (107-15-3)	
Surface tension	No data available in the literature

ethylenediamine, 1,2-diaminoethane (107-15-3)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.68 (log Koc, Equivalent or similar to OECD 106, Experimental value, GLP)
Ecology - soil	Low potential for mobility in soil.

3,6,9-triazaundecamethylenediamine, tetraethylenepentamine (112-57-2)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.2 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

3-aminopropyltriethoxysilane (919-30-2)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

Ozone : Not classified

Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Disposal must be done according to official regulations.

Additional information : Do not re-use empty containers.

SECTION 14 Transport information

DOT	IMDG	IATA
14.1. UN number		
Not regulated	2735	2735
14.2. Proper Shipping Name		
Not regulated	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (FATTY ACIDS, TALL-OIL REACTION PRODUCTS WITH TETRAETHYLENEPENTAMINE), MARINE POLLUTANT	Amines,liquid, corrosive, n.o.s. (FATTY ACIDS, TALL-OIL REACTION PRODUCTS WITH TETRAETHYLENEPENTAMINE)
14.3. Transport hazard class(es)		
Not regulated	8	8
		
14.4. Packing group		
Not regulated	III	III

DOT	IMDG	IATA
14.5. Environmental hazards		
Not regulated	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available		

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT
Not regulated

IMDG
No data available

IATA
No data available

SECTION 15 Regulatory information

15.1. Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
m-phenylenebis(methylamine)	1477-55-0	Present	Active	
benzyl alcohol	100-51-6	Present	Active	
4-nonylphenol, branched	84852-15-3	Present	Active	SP
ethylenediamine, 1,2-diaminoethane	107-15-3	Present	Active	
3,6,9-triazaundecamethylenediamine, tetraethylenepentamine	112-57-2	Present	Active	
Fatty acid, tall-oil,...	68605-86-7	Present	Active	XU
3-aminopropyltriethoxysilane	919-30-2	Present	Active	

4-nonylphenol, branched (84852-15-3)
Subject to reporting requirements of United States SARA Section 313

ethylenediamine, 1,2-diaminoethane (107-15-3)	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	5000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb

15.2. International regulations

CANADA

m-phenylenebis(methylamine) (1477-55-0)

Listed on the Canadian DSL (Domestic Substances List)

benzyl alcohol (100-51-6)

Listed on the Canadian DSL (Domestic Substances List)

4-nonylphenol, branched (84852-15-3)

Listed on the Canadian DSL (Domestic Substances List)

ethylenediamine, 1,2-diaminoethane (107-15-3)

Listed on the Canadian DSL (Domestic Substances List)

3,6,9-triazaundecamethylenediamine, tetraethylenepentamine (112-57-2)

Listed on the Canadian DSL (Domestic Substances List)

Fatty acid, tall-oil,... (68605-86-7)

Listed on the Canadian NDSL (Non-Domestic Substances List)

3-aminopropyltriethoxysilane (919-30-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

m-phenylenebis(methylamine) (1477-55-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

benzyl alcohol (100-51-6)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

4-nonylphenol, branched (84852-15-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

ethylenediamine, 1,2-diaminoethane (107-15-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

3,6,9-triazaundecamethylenediamine, tetraethylenepentamine (112-57-2)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

3-aminopropyltriethoxysilane (919-30-2)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16 Other information

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS 2024)
Date of issue : 6/24/2026

Full text of hazard classes and H-statements	
H226	Flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.