Ferrolix 8343

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

1.1 Product identifier

Trade name **Ferrolix 8343**

Article number **48301**

Identifiers **(European Union)**

Registration number (REACH) not relevant (mixture)

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

Relevant identified uses

Water treatment chemicals
Conditioning agent
Industrial use

1.3 Details of the supplier of the safety data sheet

Kurita Europe GmbH
Theodor-Heuss-Anlage 2
DE-68165 Mannheim
Germany
Telephone: + 49 621 1218-3000
e-mail: KEG_PS@kurita-water.com
Website: www.kurita.eu

Distributor

Acqua Brevetti S.r.l.
Via Molveno, 8
35035 Mestrino (PD)
Italia
Tel: +39 049 897 4006
Fax: +39 049 897 8649
e-mail: info@acquabrevetti.it

1.4 Emergency telephone number

Emergency CONTACT (24-Hour-Number):
Europe: GBK GmbH +49 (0)6132-84463
International: GBK/Infotrac ID 108808: (001) 352 323 3500
Assistance in mother tongue.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	*Hazard class*	*Cat-egory*	*Hazard class and category*	*Hazard statement*
2.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.2	skin corrosion/irritation	1	Skin Corr. 1	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
4.1C	hazardous to the aquatic environment - chronic hazard	3	Aquatic Chronic 3	H412

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word danger

Pictograms

GHS05 

Hazard statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P260	Do not breathe mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
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/doctor.

Hazardous ingredients for labelling sodium hydroxide, N,N-diethylhydroxylamine

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	*Identifier*	*Wt%*	*Classification acc. to GHS*	*Pictograms*
2-amino-2-methylpropan-ol	CAS No 124-68-5 EC No 204-709-8 Index No 603-070-00-6 REACH Reg. No 01-2119475788-16-xxxx	1 – < 5	Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Aquatic Chronic 3 / H412	
N,N-diethylhydroxylamine	CAS No 3710-84-7 EC No 223-055-4 REACH Reg. No	1 – < 5	Flam. Liq. 3 / H226 Acute Tox. 4 / H312 Acute Tox. 4 / H332 STOT SE 3 / H335 Aquatic Chronic 2 / H411	

Name of substance	*Identifier*	*Wt%*	*Classification acc. to GHS*	*Pictograms*
	01-2119962470-39-xxxx			
sodium hydroxide	CAS No 1310-73-2 EC No 215-185-5 Index No 011-002-00-6 REACH Reg. No 01-2119457892-27-xxxx	1 – < 5	Met. Corr. 1 / H290 Skin Corr. 1A / H314 Eye Dam. 1 / H318	
Tetrasodium (1-hydroxyethylidene)bisphosphonate	CAS No 3794-83-0 EC No 223-267-7	1 – < 5	Acute Tox. 4 / H302 Eye Irrit. 2 / H319	

Name of substance	*Specific Conc. Limits*	*M-Factors*	*ATE*	*Exposure route*
N,N-diethylhydroxylamine	-	-	1,300 $^{mg}/_{kg}$ 11 $^{mg}/_{l}$/4h	dermal inhalation: vapour
sodium hydroxide	Skin Corr. 1A; H314: C ≥ 5 % Skin Corr. 1B; H314: 2 % ≤ C < 5 % Skin Irrit. 2; H315: 0.5 % ≤ C < 2 % Eye Dam. 1; H318: C ≥ 2 % Eye Irrit. 2; H319: 0.5 % ≤ C < 2 %	-	-	
Tetrasodium (1-hydroxyethylidene)bisphosphonate	Eye Irrit. 2; H319: C ≥ 30 %	-	500 $^{mg}/_{kg}$	oral

Remarks

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Immediately call a doctor.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Call a physician immediately.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Immediately call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage. Splashes cause strong tearing, pain, may cause permanent visual impairment. Prolonged contact may cause dryness, redness, burns, blistering and ulceration. Can be partially absorbed by the skin. Ingestion causes pain, burns, abdominal pain, possible general impact (shock).

4.3 Indication of any immediate medical attention and special treatment needed

No specific antidote is known. Treatment of the symptoms.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Substance or mixture corrosive to metals.

Hazardous combustion products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters

Non-combustible. In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Chemical protection suit, Use suitable breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder, material for neutralising like diluted acetic acid

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas. Never add water to this product.

Handling of incompatible substances or mixtures

Do not mix with acids.

Keep away from

Acids

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Specific designs for storage rooms or vessels

Storage temperature Recommended storage temperature: 5 – <40 °C

Packaging compatibilities

Keep only in original container. Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

Water treatment chemicals. Conditioning agent. Industrial use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)
this information is not available

Relevant DNELs of components

Name of substance	*CAS No*	*End-point*	*Threshold level*	*Protection goal, route of exposure*	*Used in*	*Exposure time*
2-amino-2-methyl-propanol	124-68-5	DNEL	6.5 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

Relevant DNELs of components

Name of substance	*CAS No*	*End-point*	*Threshold level*	*Protection goal, route of exposure*	*Used in*	*Exposure time*
2-amino-2-methyl-propanol	124-68-5	DNEL	7.3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
N,N-diethylhydroxylamine	3710-84-7	DNEL	49.3 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
N,N-diethylhydroxylamine	3710-84-7	DNEL	45.6 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
N,N-diethylhydroxylamine	3710-84-7	DNEL	2.92 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
N,N-diethylhydroxylamine	3710-84-7	DNEL	8.76 mg/m³	human, inhalatory	worker (industry)	acute - local effects
N,N-diethylhydroxylamine	3710-84-7	DNEL	70 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
N,N-diethylhydroxylamine	3710-84-7	DNEL	47 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
sodium hydroxide	1310-73-2	DNEL	1 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	DNEL	16.9 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	DNEL	10 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	DNEL	48 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components

Name of substance	*CAS No*	*End-point*	*Threshold level*	*Environmental compartment*	*Source*
2-amino-2-methylpropanol	124-68-5	PNEC	0.188 $^{mg}/_{l}$	freshwater	ECHA
2-amino-2-methylpropanol	124-68-5	PNEC	0.019 $^{mg}/_{l}$	marine water	ECHA
2-amino-2-methylpropanol	124-68-5	PNEC	10 $^{mg}/_{l}$	sewage treatment plant (STP)	ECHA
2-amino-2-methylpropanol	124-68-5	PNEC	0.71 $^{mg}/_{kg}$	freshwater sediment	ECHA
2-amino-2-methylpropanol	124-68-5	PNEC	0.071 $^{mg}/_{kg}$	marine sediment	ECHA
2-amino-2-methylpropanol	124-68-5	PNEC	0.03 $^{mg}/_{kg}$	soil	ECHA
N,N-diethylhydroxylamine	3710-84-7	PNEC	8.2 $^{µg}/_{l}$	freshwater	ECHA
N,N-diethylhydroxylamine	3710-84-7	PNEC	0.82 $^{µg}/_{l}$	marine water	ECHA
N,N-diethylhydroxylam-	3710-84-7	PNEC	10 $^{mg}/_{l}$	sewage treatment	ECHA

Relevant PNECs of components					
Name of substance	*CAS No*	*End-point*	*Threshold level*	*Environmental compartment*	*Source*
ine				plant (STP)	
N,N-diethylhydroxylamine	3710-84-7	PNEC	0.065 $^{mg}/_{kg}$	freshwater sediment	ECHA
N,N-diethylhydroxylamine	3710-84-7	PNEC	0.007 $^{mg}/_{kg}$	marine sediment	ECHA
N,N-diethylhydroxylamine	3710-84-7	PNEC	6.4 $^{mg}/_{kg}$	soil	ECHA
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	PNEC	0.096 $^{mg}/_{l}$	freshwater	ECHA
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	PNEC	0.01 $^{mg}/_{l}$	marine water	ECHA
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	PNEC	58 $^{mg}/_{l}$	sewage treatment plant (STP)	ECHA
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	PNEC	193 $^{mg}/_{kg}$	freshwater sediment	ECHA
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	PNEC	19.3 $^{mg}/_{kg}$	marine sediment	ECHA
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	PNEC	14 $^{mg}/_{kg}$	soil	ECHA

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. In case of spray contact at least protection index 2 recommended, according to more than 30 min. penetration time (EN 374).
Layer thickness of gloves at least: 0.4 mm
In case of prolonged and intensive contact protection index 6 recommended, according to more than 480 min. penetration time (EN 374).
Layer thickness of gloves at least: 0.7 mm.

Type of material

PVC: polyvinyl chloride, PE: polyethylene, CR: chloroprene (chlorobutadiene) rubber, NBR: acrylonitrile-butadiene rubber, IIR: isobutene-isoprene (butyl) rubber, FKM: fluoro-elastomer

Breakthrough times of the glove material

Breakthrough times and swelling properties of the material must be taken into consideration

Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Body protection

Chemical resistant protective clothing.

Respiratory protection

Respiratory protection in case of formation of gases/vapours/mists. In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	amine-like
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	>100 °C
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	>100 °C
Auto-ignition temperature	not determined
Decomposition temperature	no data available
pH (value)	13.4 (base)
Kinematic viscosity	11.43 $mm^2/_s$ at 20 °C

Solubility(ies)

Water solubility	miscible in any proportion

Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available

Vapour pressure	not determined

Density and/or relative density

Density	1.05 $^{g}/_{cm^3}$
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)

9.2 Other information

Information with regard to physical hazard classes

Flammable liquids

Sustained combustibility	no (no sustained combustion was observed)
Corrosive to metals	category 1: corrosive to metals

Other safety characteristics

Miscibility	Completely miscible with water.

SECTION 10: Stability and reactivity

10.1 Reactivity

Substance or mixture corrosive to metals.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Exothermic reaction with: Acids.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers

Release of flammable materials with:

Light metals (due to the release of hydrogen in an acid/alkaline medium)

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

The classification criteria for these hazard classes are not met. Test data are not available for the complete mixture.

Acute toxicity estimate (ATE)

Product ATEmix oral : >2000 mg/kg
Product ATEmix dermal : >2000 mg/kg
Product ATEmix inhaled : ATEmix (inhalation/gas): >20 mg/L

Acute toxicity estimate (ATE) of components

Name of substance	*CAS No*	*Exposure route*	*ATE*
N,N-diethylhydroxylamine	3710-84-7	dermal	1,300 $^{mg}/_{kg}$
N,N-diethylhydroxylamine	3710-84-7	inhalation: vapour	11 $^{mg}/_{l}$/4h
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	oral	500 $^{mg}/_{kg}$

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Test data are not available for the complete mixture.

Germ cell mutagenicity

Test data are not available for the complete mixture.

Carcinogenicity

Test data are not available for the complete mixture.

Reproductive toxicity

Test data are not available for the complete mixture.

Specific target organ toxicity - single exposure

Test data are not available for the complete mixture.

Specific target organ toxicity - repeated exposure

Test data are not available for the complete mixture.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components						
Name of substance	*CAS No*	*Endpoint*	*Value*	*Species*	*Source*	*Exposure time*
2-amino-2-methylpropanol	124-68-5	LC50	190 mg/l	fish	ECHA	96 h
2-amino-2-methylpropanol	124-68-5	LC50	193 mg/l	aquatic invertebrates	ECHA	48 h
2-amino-2-methylpropanol	124-68-5	EC50	402 mg/l	algae	ECHA	72 h
N,N-diethylhydroxylamine	3710-84-7	LC50	>134 mg/l	fish	ECHA	96 h
N,N-diethylhydroxylamine	3710-84-7	EC50	8.2 mg/l	aquatic invertebrates	ECHA	48 h
N,N-diethylhydroxylamine	3710-84-7	EC50	>101 mg/l	algae	ECHA	72 h
N,N-diethylhydroxylamine	3710-84-7	ErC50	>101 mg/l	algae	ECHA	72 h
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	LC50	310 mg/l	fish	ECHA	24 h
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	EC50	527 mg/l	aquatic invertebrates	ECHA	48 h

Aquatic toxicity (chronic) of components of the mixture						
Name of substance	*CAS No*	*Endpoint*	*Value*	*Species*	*Source*	*Exposure time*
2-amino-2-methylpropanol	124-68-5	LC50	220 mg/l	fish	ECHA	24 h
2-amino-2-methylpropanol	124-68-5	EC50	342.9 mg/l	microorganisms	ECHA	3 h
N,N-diethylhydroxylamine	3710-84-7	NOEC	100 mg/l	microorganisms	ECHA	28 d
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	LC50	180 mg/l	fish	ECHA	14 d
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	NOEC	60 mg/l	fish	ECHA	14 d

12.2 Persistence and degradability

Not readily biodegradable.

Degradability of components of the mixture					
Name of substance	*CAS No*	*Process*	*Degradation rate*	*Time*	*Source*
2-amino-2-methylpropanol	124-68-5	oxygen depletion	89.3 %	28 d	ECHA
2-amino-2-methyl-	124-68-5	carbon dioxide	90.9 %	28 d	ECHA

Degradability of components of the mixture					
Name of substance	*CAS No*	*Process*	*Degradation rate*	*Time*	*Source*
propanol		generation			
2-amino-2-methyl-propanol	124-68-5	DOC removal	98.1 %	28 d	ECHA
N,N-diethylhydroxylamine	3710-84-7	carbon dioxide generation	11 %	28 d	ECHA

12.3 Bioaccumulative potential

Accumulation in organisms is not to be expected. .

Bioaccumulative potential of components of the mixture				
Name of substance	*CAS No*	*BCF*	*Log KOW*	*BOD5/COD*
2-amino-2-methylpropanol	124-68-5		-0.63 (pH value: >9, 20 °C)	
N,N-diethylhydroxylamine	3710-84-7		<0.5 (pH value: 5.8, 50 °C)	
Tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0	71	-3 (pH value: 11.4, 23 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN 1719
IMDG-Code	UN 1719
ICAO-TI	UN 1719

14.2 UN proper shipping name

ADR/RID/ADN	CAUSTIC ALKALI LIQUID, N.O.S.
IMDG-Code	CAUSTIC ALKALI LIQUID, N.O.S.
ICAO-TI	Caustic alkali liquid, n.o.s.
Technical name (hazardous ingredients)	sodium hydroxide, Diethyl hydroxylamine

14.3 Transport hazard class(es)

ADR/RID/ADN	8
IMDG-Code	8
ICAO-TI	8

14.4 Packing group

ADR/RID/ADN	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) Additional information

Classification code	C5
Danger label(s)	8

Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	E
Hazard identification No	80

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant	-
Danger label(s)	8

Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-B
Stowage category	A
Segregation group	18 - Alkalis
Segregation codes	SG22, SG35

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Danger label(s)	8

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)

Name of substance	*Name acc. to inventory*	*CAS No*	*No*
Ferrolix 8343	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		3
2-amino-2-methylpropanol	substances in tattoo inks and permanent make-up		75
sodium hydroxide	substances in tattoo inks and permanent make-up		75
N,N-diethylhydroxylamine	flammable / pyrophoric		40

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

none of the ingredients are listed

Seveso Directive

2012/18/EU (Seveso III)

No	*Dangerous substance/hazard categories*	*Qualifying quantity (tonnes) for the application of lower and upper-tier requirements*	*Notes*
	not assigned		

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	*CAS No*	*Listed in*	*Remarks*
sodium hydroxide		a)	
Tetrasodium (1-hydroxyethylidene)bisphosphonate		a)	
Tetrasodium (1-hydroxyethylidene)bisphosphonate		a)	

Legend

a) Indicative list of the main pollutants

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

none of the ingredients are listed

Regulation on drug precursors

none of the ingredients are listed

Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

Restrictions of occupation

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

15.2 Chemical safety assessment

Chemical Safety Assessment: No

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	*Former entry (text/value)*	*Actual entry (text/value)*
2.3	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.
2.3	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0,1%.	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.
5.3	Advice for firefighters: In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated fire-fighting water separately. Fight fire with normal precautions from a reasonable distance.	Advice for firefighters: Non-combustible. In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Section	*Former entry (text/value)*	*Actual entry (text/value)*
11.2	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0,1%.	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.
12.5	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.
12.6	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0,1%.	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

Abbreviations and acronyms

Abbr.	*Descriptions of used abbreviations*
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association

Abbr.	*Descriptions of used abbreviations*
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
Met. Corr.	Substance or mixture corrosive to metals
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU. ECHA: European Chemicals Agency, http://echa.europa.eu/.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	*Text*
H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.

Code	*Text*
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.