Shackle

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 03/07/2017 Version: 1.0

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

1.1. Product identifier

Product name : Shackle

Product form : Mixtures

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

Use of the substance/mixture : Chelating Agent - For industrial use only

1.3. Details of the supplier of the safety data sheet

EGE Products
450 County Road C
67865 Minneola - USA
T 620-450-4320
egebio.com

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Met. Corr. 1	H290
Acute Tox. 4 (Inhalation)	H332
Skin Irrit. 2	H315
Eye Dam. 1	H318
Carc. 2	H351
STOT RE 2	H373

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS05 GHS07 GHS08

Signal word (GHS-US) : **Danger**

Hazard statements (GHS-US) :
H290 - May be corrosive to metals
H315 - Causes skin irritation
H318 - Causes serious eye damage
H332 - Harmful if inhaled
H351 - Suspected of causing cancer
H373 - May cause damage to organs (Respiratory tract) through prolonged or repeated exposure (Inhalation)

Precautionary statements (GHS-US) :
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P234 - Keep only in original container
P260 - Do not breathe mist, vapours
P264 - Wash hands, forearms and face, clothing thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, protective clothing, protective gloves
P302+P352 - If on skin: Wash with plenty of soap and water
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
P308+P313 - If exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER, a poison center
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment (see first aid instructions on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P390 - Absorb spillage to prevent material damage
P405 - Store locked up
P406 - Store in corrosive resistant container with a resistant inner liner
P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Tetrasodium EDTA	(CAS No) 64-02-8	15 - 40*
Sodium hydroxide	(CAS No) 1310-73-2	<= 2*
Nitrilotriacetic acid trisodium salt	(CAS No) 5064-31-3	0.1 - 1*

*In accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR §1910.1200), the specific chemical identity or exact weight % has been withheld as a trade secret

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing if pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Get medical attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes skin irritation. Causes serious eye damage. Harmful if inhaled. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

Symptoms/injuries after inhalation : Harmful if inhaled.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

Chronic symptoms : Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Fire hazard : Product will not burn until all water content has evaporated.

Explosion hazard : Product is not explosive.

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions : Use cold water spray to cool fire-exposed containers to minimize risk of rupture. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment. Prevent human exposure to fire, fumes, smoke and products of combustion.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Wash spill area thoroughly with plenty of water. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

6.4. Reference to other sections

See Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Use personal protective equipment as required. Do not breathe mist, vapours. Avoid contact with skin and eyes. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Shelf life: Use within 24 months.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store in original container.

Storage area : Do not store in: Zinc. Aluminium. Aluminum alloys. Copper. Copper alloys. Nickel.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Tetrasodium EDTA (64-02-8)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established

Sodium hydroxide (1310-73-2)	
ACGIH Ceiling (mg/m³)	2 mg/m³
Remark (ACGIH)	URT, eye, & skin irr
OSHA PEL (TWA) (mg/m³)	2 mg/m³
OSHA PEL (Ceiling) (mg/m³)	2 mg/m³

Nitrilotriacetic acid trisodium salt (5064-31-3)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established

8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment : Gloves. Protective goggles. Protective clothing.

Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection : Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Use NIOSH (or other equivalent national standard) -approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Molecular mass	: 380.2 g/mol Literature
Color	: Colorless. Yellow.
Odor	: Mild. Solvent.
Odor Threshold	: No data available
pH	: 11 - 11.8 Literature 1% aqueous solution
Relative evaporation rate (butylacetate=1)	: < 0.8 Estimated
Melting point	: No data available
Freezing point	: -25 °C (-13 °F) Literature
Boiling point	: 106 °C (223 °F) Literature
Flash point	: No measureable flash point, Pensky-Martens Closed Cup ASTM D 93
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: Same as water
Relative vapour density at 20 °C	: Same as water (air=1)
Relative density	: 1.31 at 25 °C (77 °F) Literature (water = 1)
Solubility	: Completely miscible in water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 20 cSt at 20 °C (68 °F) Literature
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: Not an Oxidizer.
Explosive limits	: No data available

9.2. Other information

No additional data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur.

10.4. Conditions to avoid

elevated temperatures.

10.5. Incompatible materials

Avoid contact with : aluminum alloys, copper, copper alloys, nickel, zinc, and aluminum.

10.6. Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Inhalation: Harmful if inhaled.

Shackle	
LD50 oral rat	3030 mg/kg
LD50 dermal rabbit	> 5000 mg/kg

Tetrasodium EDTA (64-02-8)	
LD50 oral rat	1658 mg/kg

Nitrilotriacetic acid trisodium salt (5064-31-3)	
LD50 oral rat	920 mg/kg
LC50 inhalation rat (mg/l)	> 5 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.
pH: 11 - 11.8 Literature 1% aqueous solution

Serious eye damage/irritation : Causes serious eye damage.
pH: 11 - 11.8 Literature 1% aqueous solution

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Suspected of causing cancer.

Nitrilotriacetic acid trisodium salt (5064-31-3)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : May cause damage to organs (Respiratory tract) through prolonged or repeated exposure (Inhalation).

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : Harmful if inhaled.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

Chronic symptoms : Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

SECTION 12: Ecological information

12.1. Toxicity

Shackle	
LC50 fish 1	> 100 mg/l (fathead minnow), 96 hour
LC50 fish 2	> 157 - 2070 mg/l (Bluegill sunfish), 96 hour

12.2. Persistence and degradability

Shackle	
Biochemical oxygen demand (BOD)	15 %
BOD (% of ThOD)	< 2.5 % ThOD

12.3. Bioaccumulative potential

Shackle	
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.

Waste disposal recommendations : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN3267 Corrosive liquid, basic, organic, n.o.s. (Contains: Sodium Hydroxide, Tetrasodium ethylenediaminetetraacetate), 8, III

UN-No.(DOT) : 3267

DOT NA no. : UN3267

Proper Shipping Name (DOT) : Corrosive liquid, basic, organic, n.o.s. (Contains: Sodium Hydroxide, Tetrasodium ethylenediaminetetraacetate

Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard labels (DOT) : 8 - Corrosive

Packing group (DOT) : III - Minor Danger

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : A - The material may be stowed ''on deck'' or ''under deck'' on a cargo vessel and on a passenger vessel

DOT Vessel Stowage Other : 40 - Stow ''clear of living quarters'',52 - Stow ''separated from'' acids

Additional information

Emergency Response Guide (ERG) Number : 154

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Shackle	
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

15.2. International regulations

No additional information available.

15.3. US State regulations

WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

Formaldehyde (50-00-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	

Sodium hydroxide (1310-73-2)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Nitrilotriacetic acid trisodium salt (5064-31-3)
U.S. - Massachusetts - Right To Know List

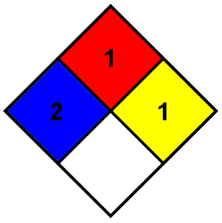
SECTION 16: Other information

Indication of changes : Revision 1.0: New SDS Created.

Revision date : 03/07/2017

Other information : Author: BCS.

NFPA health hazard	:	2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard	:	1 - Materials that must be preheated before ignition can occur.
NFPA reactivity	:	1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



HMIS III Rating

Health	:	2
Flammability	:	1
Physical	:	1
Personal protection	:	

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