

Metal Safe

Safety Data Sheet

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

Date of issue: 03/09/2017

Revision date: 03/16/2017

Supersedes: 03/15/2017

Version: 3.2

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Metal Safe
Product code : 0615

1.2. Recommended use and restrictions on use

Recommended use : Machine dishwashing detergent

1.3. Supplier

Synthetic Labs
24 Victory Lane
Dracut, MA 01826 - United States
T 800.255.4050 - F 978.957.5122
www.syntecpro.com

1.4. Emergency telephone number

Emergency number : Infotrac 24 Hour Medical Emergency Number: 1-800-535-5053

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Corrosive to metals Category 1	May be corrosive to metals
Acute toxicity (oral) Category 4	Harmful if swallowed
Skin corrosion/irritation Category 1A	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	Causes serious eye damage

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : May be corrosive to metals
Harmful if swallowed
Causes severe skin burns and eye damage
Causes serious eye damage

Precautionary statements (GHS US) :

- Keep only in original container.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wash hands, forearms and face thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center or doctor if you feel unwell.
- If swallowed: rinse mouth. Do NOT induce vomiting.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If inhaled: Remove person to fresh air and keep comfortable for breathing.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a poison center or doctor.
- Specific treatment (see supplemental first aid instruction on this label).
- Rinse mouth.
- Wash contaminated clothing before reuse.
- Absorb spillage to prevent material-damage.
- Store locked up.
- Store in corrosive resistant container with a resistant inner liner.
- Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Metal Safe

Safety Data Sheet

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

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Potassium Hydroxide	(CAS-No.) 1310-58-3	1 – 5	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Skin Corr. 1, H314 Eye Dam. 1, H318
Sodium hydroxide	(CAS-No.) 1310-73-2	1 – 5	Acute Tox. 1 (Oral), H300 Skin Corr. 1, H314 Eye Dam. 1, H318
Tetrasodium ethylenediaminetetraacetate	(CAS-No.) 64-02-8	1 – 5	Eye Dam. 1, H318
Sodium Silica Salts	(CAS-No.) 1344-09-8	1 – 5	Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2A, H319

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

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water.
- First-aid measures after eye contact : Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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

5.2. Specific hazards arising from the chemical

- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

- 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

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area.

6.1.2. 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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material.

Metal Safe

Safety Data Sheet

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

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

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. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Metal Safe	
No additional information available	
Tetrasodium ethylenediaminetetraacetate (64-02-8)	
No additional information available	
Potassium Hydroxide (1310-58-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Potassium hydroxide
ACGIH Ceiling (mg/m³)	2 mg/m³
Remark (ACGIH)	URT, eye, & skin irr
Sodium hydroxide (1310-73-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Sodium hydroxide
ACGIH Ceiling (mg/m³)	2 mg/m³
Remark (ACGIH)	URT, eye, & skin irr
USA - OSHA - Occupational Exposure Limits	
Local name	Sodium hydroxide
OSHA PEL (TWA) (mg/m³)	2 mg/m³
Sodium Silica Salts (1344-09-8)	
No additional information available	

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/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

Metal Safe

Safety Data Sheet

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



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: clear
Odor	: odorless
Odor threshold	: No data available
pH	: 14 (13.5 – 14)
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 1.05 g/m ³
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
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

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.

Metal Safe

Safety Data Sheet

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

ATE US (oral)	500 mg/kg body weight
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Tetrasodium ethylenediaminetetraacetate (64-02-8)

LD50 oral rat	> 2000 mg/kg (Rat, Oral)
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Potassium Hydroxide (1310-58-3)

LD50 oral rat	333 mg/kg (Equivalent or similar to OECD 425, Rat, Male, Experimental value, Oral)
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Sodium Silica Salts (1344-09-8)

LD50 oral rat	> 2000 mg/kg (Rat, Oral)
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Skin corrosion/irritation : Causes severe skin burns.

pH: 14 (13.5 – 14)

Serious eye damage/irritation : Causes serious eye damage.

pH: 14 (13.5 – 14)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Tetrasodium ethylenediaminetetraacetate (64-02-8)

LC50 fish 1	121 mg/l (96 h, Lepomis macrochirus, Literature study, Soft water)
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EC50 Daphnia 1	625 mg/l (24 h, Daphnia magna, Literature study)
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Potassium Hydroxide (1310-58-3)

LC50 fish 1	80 mg/l (96 h, Gambusia affinis, Static system, Fresh water, Experimental value)
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Sodium hydroxide (1310-73-2)

LC50 fish 1	45.4 mg/l (96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Solution >=50%)
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EC50 Daphnia 1	40.4 mg/l (48 h, Ceriodaphnia sp., Experimental value, Nominal concentration)
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Sodium Silica Salts (1344-09-8)

LC50 fish 1	3185 mg/l (96 h, Brachydanio rerio, Pure substance)
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EC50 Daphnia 1	216 mg/l (96 h, Daphnia magna, Pure substance)
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EC50 Daphnia 2	160 mg/l (96 h, Amphipoda, Pure substance)
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12.2. Persistence and degradability

Tetrasodium ethylenediaminetetraacetate (64-02-8)

Persistence and degradability	Not readily biodegradable in water.
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Biochemical oxygen demand (BOD)	< 0.002 g O ₂ /g substance
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Safety Data Sheet

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

Tetrasodium ethylenediaminetetraacetate (64-02-8)	
Chemical oxygen demand (COD)	0.54 – 0.58 g O ₂ /g substance
Potassium Hydroxide (1310-58-3)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
Sodium hydroxide (1310-73-2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
Sodium Silica Salts (1344-09-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Tetrasodium ethylenediaminetetraacetate (64-02-8)	
Partition coefficient n-octanol/water (Log Pow)	-2.6
Bioaccumulative potential	Not bioaccumulative.
Potassium Hydroxide (1310-58-3)	
Bioaccumulative potential	Bioaccumulation: not applicable.
Sodium hydroxide (1310-73-2)	
Bioaccumulative potential	Not bioaccumulative.
Sodium Silica Salts (1344-09-8)	
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

Sodium hydroxide (1310-73-2)	
Ecology - soil	No (test)data on mobility of the substance available.
Sodium Silica Salts (1344-09-8)	
Ecology - soil	No (test)data on mobility of the components available.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

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

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1760 Corrosive liquids, n.o.s. (Sodium Hydroxide, Potassium Hydroxide), 8, II

UN-No.(DOT) : UN1760

Proper Shipping Name (DOT) : Corrosive liquids, n.o.s.

Sodium Hydroxide, Potassium Hydroxide

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

Packing group (DOT) : II - Medium Danger

Metal Safe

Safety Data Sheet

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

Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
 DOT Packaging Bulk (49 CFR 173.xxx) : 242
 DOT Symbols : G - Identifies PSN requiring a technical name
 DOT Special Provisions (49 CFR 172.102) : B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.
 IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
 T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3)
 TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
 TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
 DOT Packaging Exceptions (49 CFR 173.xxx) : 154
 DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
 DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L
 DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
 DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"
 Emergency Response Guide (ERG) Number : 154
 Other information : No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG) : UN 1760 CORROSIVE LIQUID, N.O.S., 8, II
 UN-No. (IMDG) : 1760
 Proper Shipping Name (IMDG) : CORROSIVE LIQUID, N.O.S.
 Class (IMDG) : 8 - Corrosive substances
 Packing group (IMDG) : II - substances presenting medium danger

Air transport

Transport document description (IATA) : UN 1760 Corrosive liquid, n.o.s., 8, II
 UN-No. (IATA) : 1760
 Proper Shipping Name (IATA) : Corrosive liquid, n.o.s.
 Class (IATA) : 8 - Corrosives
 Packing group (IATA) : II - Medium Danger

Metal Safe

Safety Data Sheet

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

SECTION 15: Regulatory information

15.1. US Federal regulations

Tetrasodium ethylenediaminetetraacetate (64-02-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Potassium Hydroxide (1310-58-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ 1000 lb

Sodium hydroxide (1310-73-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ 1000 lb

Sodium Silica Salts (1344-09-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Tetrasodium ethylenediaminetetraacetate (64-02-8)

Listed on the Canadian DSL (Domestic Substances List)

Potassium Hydroxide (1310-58-3)

Listed on the Canadian DSL (Domestic Substances List)

Sodium hydroxide (1310-73-2)

Listed on the Canadian DSL (Domestic Substances List)

Sodium Silica Salts (1344-09-8)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

Component	State or local regulations
Potassium Hydroxide(1310-58-3)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Sodium hydroxide(1310-73-2)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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

Revision date : 03/16/2017

Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

SDS US (GHS HazCom 2012)

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.