

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 07/23/2018

Reviewed on 07/23/2018

1 Identification

- **Product identifier**
- **Trade name:** **8N Potassium Hydroxide**
- **Catalogue number:** 56Z098398, 56L098330, 56U098330
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Met. Corr.1 H290 May be corrosive to metals.
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
- **Hazard pictograms**



GHS05



GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
potassium hydroxide
- **Hazard statements**
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P260 Do not breathe mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection.
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
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.
P390 Absorb spillage to prevent material damage.

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- **Other hazards** No further relevant information available.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** aqueous solution
- **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

CAS: 1310-58-3	potassium hydroxide	30–40%
EINECS: 215-181-3	⚠ Met. Corr.1, H290; Skin Corr. 1A, H314; ⚠ Acute Tox. 4, H302	
Index number: 019-002-00-8		
RTECS: TT 2102000		

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air.
Call a doctor immediately.
- **After skin contact:**
Immediately rinse with plenty of water.
Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
- **After eye contact:**
Rinse opened eye for several minutes (at least 15 min) under running water.
Call a doctor immediately.
- **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed**
burns
cramps
after swallowing and inhalation:
damage to the affected mucous membranes
pain
strong caustic effect
irritations
coughing
breathing difficulty
- **Indication of any immediate medical attention and special treatment needed:**
If swallowed or in case of vomiting, danger of entering the lungs.
Later observation for pneumonia and pulmonary edema.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:**
 - Wear protective equipment. Keep unprotected persons away.
 - Avoid substance contact.
 - Ensure adequate ventilation
 - Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Advice for emergency responders:** Protective equipment: see section 8
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:**
 - Ensure adequate ventilation.
 - Absorb with liquid-binding material (sand, diatomite, universal binders).
 - Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling**
- **Advice on safe handling:** Prevent formation of aerosols.
- **Hygiene measures:**
 - Do not inhale gases / fumes / aerosols.
 - Do not get in eyes, on skin, or on clothing.
 - Take off immediately all contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Do not eat, drink or smoke when using this product.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
 - Store in a cool location.
 - Unsuitable material for container: aluminum (Al), tin (Sn), zinc (Zn)
- **Information about storage in one common storage facility:** Store away from metals.
- **Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Protect from exposure to the light.
 - Protect from humidity and water.
- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

CAS: 1310-58-3 potassium hydroxide

REL (USA)	Ceiling limit value: 2 mg/m ³
TLV (USA)	Ceiling limit value: 2 mg/m ³
EL (Canada)	Ceiling limit value: 2 mg/m ³
EV (Canada)	Ceiling limit value: 2 mg/m ³

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
 - Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
 - See item 7.

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- **Personal protective equipment:**
- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Protection of hands:**
Alkaline resistant gloves
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
Value for the permeation: Level ≤ 1 (10 min)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Tightly sealed goggles
- **Body protection:** Alkaline resistant protective clothing
- **Limitation and supervision of exposure into the environment:**
Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

· Information on basic physical and chemical properties	
· Appearance:	
Form / Physical state:	Fluid
Color:	Colorless
· Odor:	Odorless
· Odor threshold:	Not applicable.
· pH-value at 20°C (68°F):	>14 Strongly alkaline
· Melting point/freezing point:	Not determined.
· Initial boiling point and boiling range:	Not applicable.
· Flash point:	Not applicable.
· Flammability (solid, gas):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Flammability or explosive limits:	
Lower:	Not applicable.
Upper:	Not applicable.
· Oxidizing properties:	none
· Vapor Pressure:	Not determined.
· Density at 20°C (68°F):	~1.32 g/cm ³ (~11.02 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not determined.
· Evaporation rate:	Not determined.
· Solubility(ies)	
Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	Not determined.
· Solvent content:	
Water:	> 60 %
Solids content:	< 40 %

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Other information	No further relevant information available.
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10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
 - Corrosive action on metals.
 - Reacts with metals forming hydrogen (Danger of explosion!)
 - Reacts with halogenated compounds.
 - Reacts with strong acids.
 - Reacts with earth alkaline metals.
 - Reacts with ammonia (NH₃).
 - Reacts with light alloys to form hydrogen.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
 - metals
 - light metals
 - organic substances
 - various plastics
 - glass
- **Hazardous decomposition products:** see section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Classification according to calculation procedure.

· LD/LC50 values that are relevant for classification:	
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CAS: 1310-58-3 potassium hydroxide	
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Oral	LD50	333 mg/kg (rat) (OECD 425) (ECHA)
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- **Primary irritant effect:**
- **on the skin:** Causes severe skin burns.
- **on the eye:**
 - Causes serious eye damage.
 - Risk of blindness!

· Information on components:

CAS: 1310-58-3 potassium hydroxide	
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Irritation of skin	OECD 404	(rabbit: burns)
Irritation of eyes	OECD 405	(rabbit: burns)

- **Sensitization:** Based on available data, the classification criteria are not met.

· Information on components:

CAS: 1310-58-3 potassium hydroxide	
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Sensitization	OECD 406	(guinea pig: negative)
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- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)
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None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)
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None of the ingredients is listed.

- **Other information:** see section 8 / 15

- **Synergistic Products:** None

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:

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- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

· Information on components:	
CAS: 1310-58-3 potassium hydroxide	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (Escherichia coli / Salmonella typhimurium)

· Additional toxicological information:	
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.	

12 Ecological information

· Toxicity	
· Aquatic toxicity:	
CAS: 1310-58-3 potassium hydroxide	
LC50	80 mg/l/96h (mosquitofish) (IUCLID)

· Persistence and degradability .	
· Other information:	
Mixture of inorganic compounds. Methods for the determination of biodegradability are not applicable to inorganic substances.	
· Bioaccumulative potential No further relevant information available.	
· Mobility in soil No further relevant information available.	
· Other adverse effects Avoid transfer into the environment.	

13 Disposal considerations

· Waste treatment methods	
· Recommendation:	
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers.	
· Uncleaned packagings:	
· Recommendation: Disposal must be made according to official regulations.	
· Recommended cleansing agent: Water, if necessary with cleansing agents.	

14 Transport information

· UN-Number	
· DOT, IMDG, IATA	
UN1814	
· UN proper shipping name	
· DOT	
Potassium hydroxide, solution	
· IMDG, IATA	
POTASSIUM HYDROXIDE SOLUTION	
· Transport hazard class(es)	
· DOT	
	
· Class	
8 Corrosive substances	



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· Label	8
· IMDG, IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Alkalis
· Stowage Category	A
· Segregation Code	SG35 Stow "separated from" acids.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· Limited quantity (LQ):	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

15 Regulatory information

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

· Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

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• New Jersey Right-to-Know List:	
CAS: 1310-58-3	potassium hydroxide
• New Jersey Special Hazardous Substance List:	
CAS: 1310-58-3	potassium hydroxide
	CO, R1
• Pennsylvania Right-to-Know List:	
CAS: 1310-58-3	potassium hydroxide
• Pennsylvania Special Hazardous Substance List:	
CAS: 1310-58-3	potassium hydroxide
	E
• EPA (Environmental Protection Agency)	
None of the ingredients is listed.	
• NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed.	

• **Information about limitation of use:** Employment restrictions concerning young persons must be observed.

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• Relevant phrases

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

• **Date of preparation / last revision** 07/23/2018 / -

• Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ACGIH® - American Conference of Governmental Industrial Hygienists

•A1 - Confirmed human carcinogen

•A2 - Suspected human carcinogen

•A3 - Confirmed animal carcinogen with unknown relevance to humans

•A4 - Not classifiable as a human carcinogen

•A5 - Not suspected as a human carcinogen

IARC - International Agency for Research on Cancer

•Group 1 - Carcinogenic to humans

•Group 2A - Probably carcinogenic to humans

•Group 2B - Possibly carcinogenic to humans

•Group 3 - Not classifiable as to carcinogenicity to humans

•Group 4 - Probably not carcinogenic to humans

NTP - National Toxicology Program, U.S. Department of Health and Human Services

•Group K - Known to be Human Carcinogens

•Group R - Reasonably Anticipated to be Human Carcinogens

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Met. Corr. 1: Corrosive to metals – Category 1

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

• **Sources** Data arise from safety data sheets, reference works and literature.