



Safety Data Sheet dated 18/12/2018, version 9

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

- 1.1. Product identifier
Trade name: POTASSIUM HYDROXIDE SOLUTION
- 1.2. Relevant identified uses of the substance or mixture and uses advised against
Recommended use:
FOR INDUSTRIAL USE
FOR PROFESSIONAL USE
FOOD ADDITIVE
- 1.3. Details of the supplier of the safety data sheet
Company:
ALTAIR CHIMICA S.p.a.
Via Moie Vecchie 13
56048 Saline di Volterra (PI)
Competent person responsible for the safety data sheet: sds@altairchimica.com
- 1.4. Emergency telephone number
ALTAIR CHIMICA S.p.a. Phone n. +39-0588-9811

SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture
EC regulation criteria 1272/2008 (CLP)
⚠ Warning, Met. Corr. 1, May be corrosive to metals.
⚠ Warning, Acute Tox. 4, Harmful if swallowed.
⚠ Danger, Skin Corr. 1, Causes severe skin burns and eye damage.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Danger

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 dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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 doctor.

Special Provisions:

None

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

vPvB Substances: None - PBT Substances: None



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Other Hazards:
No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
>= 40% - < 50%	Potassium hydroxide; caustic potash	Index number: 019-002-00-8 CAS: 1310-58-3 EC: 215-181-3 REACH No.: 01-2119487136-33-0018	⚠ 2.16/1 Met. Corr. 1 H290 ⚠ 3.2/1A Skin Corr. 1A H314 ⚠ 3.1/4/Oral Acute Tox. 4 H302

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

Give nothing to eat or drink.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

Impairment of vision

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

CO2 or Dry chemical fire extinguisher.

Extinguishing media which must not be used for safety reasons:

None in particular.

- 5.2. Special hazards arising from the substance or mixture
Do not inhale explosion and combustion gases.
- 5.3. Advice for firefighters
Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment.
Remove persons to safety.
See protective measures under point 7 and 8.
- 6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand
- 6.3. Methods and material for containment and cleaning up
After the product has been recovered, rinse the area and materials involved with water.
Wash with plenty of water.
- 6.4. Reference to other sections
See also section 8 and 13

SECTION 7: Handling and storage

- 7.1. Precautions for safe handling
Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities
Always keep the containers tightly closed.
Keep this product in a dry place.
Always keep in a well ventilated place.
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
Keep away from food, drink and feed.
Incompatible materials:
None in particular.
Keep away from acids.
Keep away from oxidizing agents
Instructions as regards storage premises:
Adequately ventilated premises.
- 7.3. Specific end use(s)
None in particular

SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters
Potassium hydroxide; caustic potash - CAS: 1310-58-3
MAK - TWA: 2 mg/m³
ACGIH - STEL: Ceiling 2 mg/m³ - Notes: URT, eye, and skin irr



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DNEL Exposure Limit Values

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Worker Professional: 1 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 1 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

PNEC Exposure Limit Values

N.A.

8.2. Exposure controls

Eye protection:

Basket eye glasses.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

No special precaution must be adopted for normal use.

Protection for hands:

Suitable gloves type:

Butyl caoutchouc (butyl rubber).

PVC (polyvinyl chloride).

Respiratory protection:

Mask with filter "P", white colour

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance and colour:	Liquid
Odour:	Characteristic
Odour threshold:	N.A.
pH:	14
Melting point / freezing point:	<0°C
Initial boiling point and boiling range:	145°C
Solid/gas flammability:	N.A.
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	N.A.
Flash point:	N.A.
Evaporation rate:	N.A.
Vapour pressure:	3 mmHg (25°C)
Relative density:	1.41 - 1.52 g/cm ³
Solubility in water:	N.A.
Solubility in oil:	N.A.
Partition coefficient (n-octanol/water):	N.A.
Auto-ignition temperature:	N.A.
Decomposition temperature:	N.A.
Viscosity:	N.A.
Explosive properties:	N.A.
Oxidizing properties:	N.A.

9.2. Other information

Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties	N.A.

SECTION 10: Stability and reactivity

- 10.1. Reactivity
 - Stable under normal conditions
 - Danger due to exothermic reactions. May be corrosive to metals.
- 10.2. Chemical stability
 - Stable under normal conditions
- 10.3. Possibility of hazardous reactions
 - Forms hydrogen by reaction with metals. Exothermic reaction with acids. Reacts with water.
- 10.4. Conditions to avoid
 - Stable under normal conditions.
 - Mixtures with water, acids or incompatible materials which can cause sprays and release of a large amount of heat. It can react with some metals forming flammable hydrogen.
- 10.5. Incompatible materials
 - Keep separate from: heat sources, oxidising agents, highly flammable materials, halogens, organic materials. Keep away from: lead, aluminium, copper, tin, zinc, bronze.
- 10.6. Hazardous decomposition products
 - Heating can cause water to evaporate with the formation of caustic mist.
 - Absorbs atmospheric carbon dioxide. Hydrogen: reacts with (some) metals and their compounds: emission of highly flammable gas.

SECTION 11: Toxicological information

- 11.1. Information on toxicological effects
 - Toxicological information of the product:
POTASSIUM HYDROXIDE SOLUTION
 - a) acute toxicity
 - The product is classified: Acute Tox. 4 H302
 - Test: LD50 - Route: Oral - Species: Rat > 300 mg/kg - Source: Bruce (1987)-Johnson (1975)
 - b) skin corrosion/irritation
 - The product is classified: Skin Corr. 1 H314
 - Test: Skin Corrosive Positive
 - c) serious eye damage/irritation
 - Not classified
 - Based on available data, the classification criteria are not met
 - Test: Eye Corrosive Positive
 - d) respiratory or skin sensitisation
 - Not classified
 - Based on available data, the classification criteria are not met
 - e) germ cell mutagenicity
 - Not classified
 - Based on available data, the classification criteria are not met
 - f) carcinogenicity
 - Not classified
 - Based on available data, the classification criteria are not met
 - g) reproductive toxicity
 - Not classified
 - Based on available data, the classification criteria are not met
 - h) STOT-single exposure
 - Not classified
 - Based on available data, the classification criteria are not met
 - i) STOT-repeated exposure
 - Not classified
 - Based on available data, the classification criteria are not met
 - j) aspiration hazard
 - Not classified
 - Based on available data, the classification criteria are not met
- Toxicological information of the main substances found in the product:

N.A.

SECTION 12: Ecological information

- 12.1. Toxicity
Adopt good working practices, so that the product is not released into the environment.
POTASSIUM HYDROXIDE SOLUTION
Not classified for environmental hazards
Based on available data, the classification criteria are not met
- 12.2. Persistence and degradability
N.A.
- 12.3. Bioaccumulative potential
N.A.
- 12.4. Mobility in soil
N.A.
- 12.5. Results of PBT and vPvB assessment
vPvB Substances: None - PBT Substances: None
- 12.6. Other adverse effects
None

SECTION 13: Disposal considerations

- 13.1. Waste treatment methods
Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information



- 14.1. UN number
ADR-UN Number: 1814
IATA-UN Number: 1814
IMDG-UN Number: 1814
- 14.2. UN proper shipping name
ADR-Shipping Name: POTASSIUM HYDROXIDE SOLUTION
IATA-Shipping Name: POTASSIUM HYDROXIDE SOLUTION
IMDG-Shipping Name: POTASSIUM HYDROXIDE SOLUTION
- 14.3. Transport hazard class(es)
ADR-Class: 8
ADR - Hazard identification number: 80
IATA-Class: 8
IATA-Label: 8
IMDG-Class: 8
- 14.4. Packing group
ADR-Packing Group: II
IATA-Packing group: II
IMDG-Packing group: II
- 14.5. Environmental hazards
ADR-Environmental Pollutant: No
IMDG-Marine pollutant: No
- 14.6. Special precautions for user
ADR-Subsidiary risks: -
ADR-S.P.: -
ADR-Transport category (Tunnel restriction code): (E)

IATA-Passenger Aircraft:	851
IATA-Subsidiary risks:	-
IATA-Cargo Aircraft:	855
IATA-S.P.:	A3 A803
IATA-ERG:	8L
IMDG-EmS:	F-A , S-B
IMDG-Subsidiary risks:	-
IMDG-Stowage and handling:	Category A
IMDG-Segregation:	"Separated from" acids.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
N.A.

SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
- Dir. 98/24/EC (Risks related to chemical agents at work)
 - Dir. 2000/39/EC (Occupational exposure limit values)
 - Regulation (EC) n. 1907/2006 (REACH)
 - Regulation (EC) n. 1272/2008 (CLP)
 - Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
 - Regulation (EU) 2015/830
 - Regulation (EU) n. 286/2011 (ATP 2 CLP)
 - Regulation (EU) n. 618/2012 (ATP 3 CLP)
 - Regulation (EU) n. 487/2013 (ATP 4 CLP)
 - Regulation (EU) n. 944/2013 (ATP 5 CLP)
 - Regulation (EU) n. 605/2014 (ATP 6 CLP)
 - Regulation (EU) n. 2015/1221 (ATP 7 CLP)
 - Regulation (EU) n. 2016/918 (ATP 8 CLP)
 - Regulation (EU) n. 2016/1179 (ATP 9 CLP)
 - Regulation (EU) n. 2017/776 (ATP 10 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

Restriction 3

Restrictions related to the substances contained:

No restriction.

Where applicable, refer to the following regulatory provisions :

- Directive 2012/18/EU (Seveso III)
- Regulation (EC) nr 648/2004 (detergents).

- 1999/13/EC (VOC directive)
- WGK1 - Slightly hazardous for water
- Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

N.A.

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for the mixture.

Substances for which a Chemical Safety Assessment has been carried out:

None

SECTION 16: Other information

Full text of phrases referred to in Section 3:

- H290 May be corrosive to metals.
- H314 Causes severe skin burns and eye damage.
- H302 Harmful if swallowed.

Hazard class and hazard category	Code	Description
Met. Corr. 1	2.16/1	Substance or mixture corrosive to metals, Category 1
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1	3.2/1	Skin corrosion, Category 1
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A

Paragraphs modified from the previous revision:

SECTION 10: Stability and reactivity
SECTION 15: Regulatory information
SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Met. Corr. 1, H290	On basis of test data
Acute Tox. 4, H302	Calculation method
Skin Corr. 1, H314	On basis of test data (pH)

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,
Commission of the European Communities
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van
Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute Toxicity Estimate
ATEmix: Acute toxicity Estimate (Mixtures)
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CLP: Classification, Labeling, Packaging.
DNEL: Derived No Effect Level.
EINECS: European Inventory of Existing Commercial Chemical Substances.
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport



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	Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
N.A.:	Not Available
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.