

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

**1.1 Product identifier**

Product name	POTASSIUM HYDROXIDE SOLUTION 45%
CAS-No.	1310-58-3
Product code	GP1216

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

Identified uses	Chemical for analysis and production.
-----------------	---------------------------------------

**1.3 Details of the supplier of the safety data sheet**

Company	RCI LABSCAN LIMITED. 24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand
Telephone number	(662) 613-7911-4
Fax number	(662) 613-7915

**1.4 Emergency Telephone Number**

Emergency phone	(662) 613-7911-4
-----------------	------------------

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

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

Corrosive to metals (Category 1), H290  
Acute toxicity, oral (Category 4), H302  
Skin corrosion (Category 1A), H314  
For the full text of the H-Statements mentioned in this Section, see Section 16.

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

C	Corrosive	R35
Xn	Harmful	R22

For the full text of the R-phrases mentioned in this Section, see Section 16.

**2.2 Label elements**

**Labelling according Regulation (EC) No 1272/2008**

Pictogram



Signal word	Danger
-------------	--------

Hazard statement(s)

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

Precautionary statement(s)

P234	Keep only in original container.
P260	Do not breathe dust or mists.
P264	Wash hand thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
P310	Immediately call a POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in corrosive resistant/ container with a resistant inner liner.

2.3 Other hazards None

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Not applicable

#### 3.2 Mixture

##### Potassium hydroxide

Synonyms -

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
1310-58-3	215-181-3	019-002-00-8	KOH	56.11 g/mol	>45

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Concentration	Classification
<b>Potassium hydroxide</b>		
CAS-No 1310-58-3 EC-No 215-181-3 EC-Index-No 019-002-00-8	>45 %	Corrosive to metals (Category 1), H290 Acute toxicity, oral (Category 4), H302 Skin corrosion (Category 1A), H314

#### Hazardous ingredients according to Directive 1999/45/EC

Component	Concentration	Classification
<b>Potassium hydroxide</b>		
CAS-No 1310-58-3 EC-No 215-181-3 EC-Index-No 019-002-00-8	>45 %	C, Corrosive, R35 Xn, Harmful, R22

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of dust. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.

Skin contact	Remove contaminated clothing and wash affected skin with soap and water. Dab with polyethylene glycol 400. Obtain medical attention.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	Rinse mouth. After swallowing make victim drink water (two glasses at the most), call in physician. Do not attempt to neutralize.

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

The most important known symptoms and effects are described in section 2.2 and section 11

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

Not Available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

In adaption to materials stored in the immediate neighborhood.

### 5.2 Special hazards arising from the substance or mixture

Non-combustible. Ambient fire may liberate hazardous vapors. The following may develop in event of fire: potassium oxides.

### 5.3 Advice for firefighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

### 5.4 Further information

Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or ground water.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

### 6.3 Methods and materials for containment and cleaning up

Spillage : soak up with inert absorbent material (e.g. sand, silica gel). Prevent liquid entering sewers, basements and workpits. Transfer to covered drums. Dispose of promptly.

### 6.4 Reference to other sections

For disposal see **Section 13**.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of good ventilation in working area. The floor must be alkaline resistant. Do not leave container open. Avoid spillage. Do not transport together with incompatible substances.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep tightly closed at room temperature in a dry, cool and well-ventilated place. Keep out of direct sunlight and away from heat, water and incompatible materials. Requirements for containers, no metal containers.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****8.1 Control parameters****Derived No Effect Level (DNEL)**

Application Area	Health Effects	Exposure	Value
Worker	Long-term Local effects	Inhalation	1 mg/m <sup>3</sup>
Consumer	Long-term Local effects	Inhalation	1 mg/m <sup>3</sup>

**Predicted No Effect Concentration (PNEC)**

Not Available

**8.2 Exposure controls****Appropriate engineering controls**

The product should only be used in ventilation hoods and fans.

**Individual protection measures (Personal protective equipment, PPE)****Eye/face protection**

Goggles giving complete protection to eyes.

**Skin protection**

Chemical resistant apron / corrosive protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from nitrile rubber material.
- Splash contact wears gloves from nitrile rubber material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter P2 (EN 141 or EN 14387).

**Environmental exposure controls**

Prevent liquid entering sewers, basements and workpits.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Appearance: Form	Liquid
: Color	Colorless
Odour	Odorless
Odour Threshold	Not Available
pH	>13.5 at 20°C
Melting point/range	Not Available
Boiling point/range	Not Available
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	Not Available

upper	Not Available
Vapor Pressure	Not Available
Relative Vapor Density	Not Available
Density	1.45 g/ml at 20°C
Water solubility	Soluble at 20°C
Partition coefficient (n-octanol/water)	Not Available
Auto-Ignition temperature	Not Available
Decomposition Temperature	Not Available
Viscosity	Not Available
Explosive properties	Not Explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Exothermic dissolution process with water.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion in contact with fluorine, aluminium hexachloroplatinate/heat, bromoform + crown ether, but-2-ene-1,4-diol (heat), calcium powder, calcium carbide/chlorine, chlorine dioxide, cyanogen azide, 1,2-dichloroethene, magnesium, sodium azide + benzoyl chloride, nitrobenzene, nitroethane, nitromethane, nitroparaffines, N-nitrosomethylurea, phosphorus, nitrogen trichloride, tetrahydrofurane (peroxide containing), 2,4,6-trinitrotoluene, zinc, tin.

The substance can react dangerously with acids, water, hydrogen peroxide, acetonitrile, acrolein, aldehydes, aluminium carbide, ammonium salts/ammonia, chloroform/methanol, cyclopentadiene, acetic acid, germanium, halogenated hydrocarbons, iodine pentafluoride, potassium peroxodisulphate, cresols, maleic anhydride, itrophenol, phosphorus trioxide, hydrogen sulphide, tetrafluoropropanol, trichloroethene, vinyl acetate, sugars (reducing).

### 10.4 Conditions to avoid

Not Available

### 10.5 Incompatible materials

For incompatible material see **Section 10.3**.

### 10.6 Hazardous decomposition products

Potassium oxides (Hazardous decomposition products from under fire condition).

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

#### Acute toxicity

Not Available

#### Acute oral toxicity

Absorption

Symptoms: burns of mouth, pharynx, mucous membranes, oesophagus and gastrointestinal tract. Risk of perforation in the oesophagus and stomach.

#### Acute inhalation toxicity

Symptoms: burns of mucous membranes.

**Skin corrosion/irritation**

Burns

**Serious eye damage/eye irritation**

Burns. Risk of blindness.

**Respiratory or skin sensitization**

Not Available

**Germ cell mutagenicity**

Not Available

**Carcinogenicity**

Not Available

**Reproductive toxicity**

Not Available

**Teratogenicity**

Not Available

**Specific target organ toxicity (STOT) - single exposure**

Not Available

**Specific target organ toxicity (STOT) - repeated exposure**

Not Available

**Aspiration hazard**

Not Available

**Further information**

Systemic effects: Collapse, death.

The product should be handled with the care usual when dealing with chemicals.

**SECTION 12: Ecological information****Mixture****12.1 Toxicity**

Not Available

**12.2 Persistence and degradability**

Biodegradability Not Available

**12.3 Bioaccumulative potential**

Partition coefficient (n-octanol/water) Not Available

**12.4 Mobility in soil**

Not Available

**12.5 Other adverse effects**

Harmful effect on aquatic organisms. Toxic effect on fish and plankton. Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted. Does not cause biological oxygen deficit.

Neutralization possible in waste water treatment plants.

Do not allow to enter waters, waste water or soil.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

#### Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

## SECTION 14: Transport information

### Land Transport (ADR/RID)

UN Number	1814
UN proper shipping name	POTASSIUM HYDROXIDE, SOLUTION
Transport hazard class(es)	8
Packaging group	II
Environmental hazards	No
Special precautions for user	Yes

### Sea transport (IMDG)

UN Number	1814
UN proper shipping name	POTASSIUM HYDROXIDE, SOLUTION
Transport hazard class(es)	8
Packaging group	II
Marine pollutant	No
Special precautions for user	Yes
EmS	F-A S-B

### Air transport (IATA)

UN Number	1814
UN proper shipping name	POTASSIUM HYDROXIDE, SOLUTION
Transport hazard class(es)	8
Packaging group	II
Environmental hazards	No
Special precautions for user	No

### River transport (AND/ADNR)

(Not examined)

## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

Not Available

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3

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

### Full text of R-phrases referred to under sections 2 and 3

C	Corrosive
Xn	Harmful
R22	Harmful if swallowed.
R35	Causes severe burns.

### Recommended restrictions

Take notice of labels and safety data sheets for the working.

### Reference

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany, Source: IFA for Databases on hazardous substances (GESTIS).

### Further information

Contact to RCI Labscan Limited.

### Revision Date

01/10/2015

---

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.