



Material Safety Data Sheet

1. Identification of the Product & Company

Product Name : Potassium Hydroxide 45%
Other Name : —
Suggested Use and Restriction :
Company Name, Address, and Telephone No. : Yee Fong Chemical & Industrial Co., Ltd. Taoyuan Plant/No. 377, Haihu E. Rd., Lujhu Township, Taoyuan County, Taiwan
Emergency Telephone No./Fax No. : TEL : (03) 3541944 ; FAX : (03) 3541957

2. Hazard Identification

GHS Classification : 1. Acute Toxicity Category 3 (Swallow) 2. Metal Corroded Substance Category 1 3. Corrosive/Skin Irritated Substance Category 1 4. Serious Damage/Eyes Irritated Substance Category 1
Label Element : • Symbol :   • Signal Word : Warning • Hazard Statement : 1. Poisoned if Swallow. 2. Causes metal erosion. 3. Causes skin burning and eyes damage. 4. Causes serious eyes damage. • Precautionary Statements : 1. If in eyes, rinse with water and seek for medical advice. 2. Take off contaminated clothes immediately. 3. Wear protective equipment when operating.
Other Hazard : —

3. Composition, Information on Ingredients

English Name : Potassium Hydroxide
Synonym : Caustic Potash, Potassium Hydrate, Potassa, KOH, LYE
CAS No. : 01310-58-3
Hazardous Ingredients(%) : 45%

4. First Aid Measures

<p>First Aid Procedures Under Different Exposure :</p> <ul style="list-style-type: none"> • In Breathe : <ol style="list-style-type: none"> 1. Medical personnel should wear suitable protective equipment. 2. Remove contaminants or move patient to air-freshing area. 3. If in hard breathing, give patient oxygen by well-trained personnel. 4. The symptom of pulmonary edema may delaying. 5. Seek for medical treatment immediately. • Skin Contact : <ol style="list-style-type: none"> 1. Wear gloves to avoid direct contacting the chemicals. 2. Flush with plenty of warm water immediately for over 60 minutes. 3. Take off contaminated clothes and shoes while in flushing. 4. Seek for medical advice immediately. • Eye Contact : <ol style="list-style-type: none"> 1. Wear gloves to avoid direct contacting the chemicals. 2. Brush out extra chemicals immediately. 3. Rinse with warm water immediately for over 60 minutes. 4. Flush with physiological saline if possible and do not interrupt while in brushing. 5. Be cautious of contaminated water flow into another eye. 3. Keep rinsing with warm water if irritation is persisting. 4. Seek for medical treatment immediately. • Ingestion : <ol style="list-style-type: none"> 1. Do not feed if patient is unconscious or convulsion. 2. Wash mouth with water thoroughly. 3. Do not vomit. 4. Give patient drink 240~300ml water to neutralize the chemicals. 5. Give patient drinks milk if possible. 6. If patient is vomiting, make his body forward and give water persistently. 7. Seek for medical treatment immediately. <p>The Most Dangerous Symptoms & Hazardous Effects : High corrosive will cause</p>

burning, irritation and ablepsia.
Protection for Medical Personnel : Personnel are not allowed to enter contaminated area to remove patient if not wearing level A protective clothes. Personnel should wear level C protective equipment to do first-aid in safe area.
Doctor' s Advices : If in eyes or ingest, flush with water and give water immediately. If in breathe, give patient oxygen, avoid doing gastric lavage or vomiting.

5. Fire Fighting Measures

Suitable Extinguishing : It is nonflammable, and selects suitable fire extinguisher aim at flaming substance.
Specific hazard that may be encountered when extinguishing : <ol style="list-style-type: none"> 1. Sodium hypochlorite will not burn itself, but it is an oxidizer and combustible. 2. Containers can be cooled by water, but stay in safe distance to avoid the explosion of containers. 3. Sodium Hypochlorite will leaks chlorine gas after decomposing.
Specific Extinguishing Procedures : <ol style="list-style-type: none"> 1. Put out fire in safe and protective range. 2. Quarantine the unfired substances and protect personnel' s safe. 3. Withdraw the containers from the fire place in safety. 4. Be cautious of putting out fire with water, personnel should avoid that water will react to potassium hydroxide. 5. Cool the containers and storage tanks which are exposed in fire place. 6. Personnel who doesn' t wear protective equipment are not allowed to enter in.
Specific Protection and Equipment for Fire-fighters : Fire-fighters should wear A class airtight chemical protective cloth and air-respirator.

6. Accidental Release Measure

Personal Precautions :

1. Restrict to enter contaminated area before cleaning complete.
2. Confirm the cleaning work is responsible for by well-trained personnel.
3. Wear personal protective equipment.

Environmental Consideration :

1. Keep the leaking area dry and cool.
2. Put out or remove all the fire-burning substances.
3. Remove all the substances which can react to leaking substance.
4. Report to the security or environmental organization.

Cleaning Method :

1. Block the leaking substance and scoop it up in safety.
2. Avoid the leaking substance flow into sewer, ditch, or other airtight area.
3. Neutralize the substance which is remained and wash the leaking area.
4. Use sand, soil, or other insert materials to block the leaking substance,
5. If the substance is leaking too much, call the supplier, fire-fighter, or emergency department for helping.

7. Handling & Storage

Handling :

1. When diluting or preparing solution, pour water slowly to avoid spraying.
2. Personnel should be well-trained and be told the dangerous of the substance and the safe of operate methods.
3. Containers should be labeled the dangerous mark.
4. Partial ventilating to control dust and droplet.
5. Use anti-corrosive air-system and separated from other air-system.

- Storage :
1. Containers should be labeled and tightly closed.
 2. Stored in cool and dry area; the area should be separated from general area.
 3. Keep away from different materials and different working area.
 4. Using incorrupt lighting and air system.
 5. Examine whether leak or damage in regular and avoid storing overdue.
 6. Restrict unrelated workers enter storage area.

8. Exposure Controls

Engineering Controls : 1. Use anti-corrosiveness air-system and separated from other air-system. 2. Use partial exhaust duct. 3. The ventilator should be connected to outside. 4. Supply enough fresh air to the system which exhausts too much air.			
Control Parameters			
Average Allowable Concentration of Eight Hours Time Weighted	Average Allowable Concentration of Short Period	Maximum Allowable Concentration	Biological Indicators:
2mg/m ³	125mg/m ³	—	—
Personal Protection :			
<ul style="list-style-type: none"> • Respiratory Protection : Chemical Protective Respirator • Eye Protection : Chemical Goggles, whole-face mask, eye-washing machine. • Hand Protection : Rubber Gloves • Skin & Body Protection: Wear imperious clothing such as boots or body suits. Body and eye flushing equipment is required in working place. 			
Hygienic Measures :			
<ol style="list-style-type: none"> 1. Take off contaminated clothes immediately after work and clean thoroughly before wearing or abandoning. Be sure to tell the danger of contaminants to cloth-washing personnel. 2. Wash hands thoroughly after processing. 3. Maintain the working place cleaned. 			

9. Physical and Chemical Properties

Appearance : Colorless Liquid	Odor : No Smell
Odor Threshold : No Smell	Melting Point : 318.4°C
PH : 14(1M KOH-6wt%KOH)	Boiling Point/Boiling Range : 135°C

Inflammability (solid/ liquid): —	Flash Point: —
Decomposition : —	Test Method : —
Ignition Temperature : —	Explosion Limits : —
Vapor Pressure : 0 mmHg	Vapor Density : —
Density : 1.46 (water=1)	Solubility : Can be solved in water
Octanol/Water Partition Coefficient (log Kow) : —	Evaporation Rate : —

10. Stability & Reactivity

Stability : Stable under ordinary conditions of use and storage.
Hazardous Reaction under Specific Conditions : <ol style="list-style-type: none"> Mingle with water will produce heat. Mingle with metal will produce combustibles and explosive hydrogen. Mingle with halide will produce combustible compound. Corroding aluminum, zinc, and tin; in high temperature will corrode steel. Organic compounds of maleic anhydride, nitro, and chlorine may have reaction of explode.
Conditions to Avoid : <ol style="list-style-type: none"> Avoid reacting to other materials. Avoid operating in high temperature.
Substances to be Avoided : 1. Metal 2. Halide 3. Aluminum 4. Zinc 5. Tin
Hazardous Decomposition : —

11. Toxicological Information

Routes of Exposure : Breathe in, Skin contact, Eye contact, Swallow
Symptoms :
Acute Toxicity : Inbreathe:

1. Causes nose, pharynx, and the upper respiratory tract serious irritate.
1. Composed with acid or heat to over 40°C will produce chlorine gas.
2. Chlorine will irritate nose and throat, if in high consistency will damage lung seriously.
3. Combine with nitride will produce irritating chloramine vapor.

Skin Contact:

1. Droplet and solution will causes serious skin irritation, burning, even chemical burning.

Eye Contact:

1. Droplet and solution will causes serious eyes irritation, if consistency is high may damage eyes seriously.
2. Chlorine and chloramine vapor are also irritate for people.

Ingest:

Causes irritation and corrosion for gullet; it also may causes nausea, vomit, diarrhea, convulsions, and pain.

LC50(Animal Test, Exposure Way): —

LC50(Animal Test, Exposure Way): 8.9lgr/kg(Big Rat, Ingest)

Chronic Toxicity and Long-term Toxicity : 1. Allergic Contact Dermatitis
2. Affection for Respiratory System

12. Ecological Information

Eco-toxicity : LC50(Fish): 5.9mg/l/96H
Persistence and Degradability : —
Bioaccumulation : —
The Liquidity of the Soil : —
Other Adverse effects : —

13. Disposal Considerations

Refer to Toxic Chemical Substances Control Act, the industrial waste storage, clearance and processing methods and related laws, prohibit indiscriminate dumping.

14. Transport Information

UN NO. : 1814
International Shipping Name : Chlorine
Hazard Classification of Transportation: Corrosive Substance Category 8.
Packing Group : II
Marine Pollutant (Yes/No) : No
Specific Delivery Methods and Precautions : —

15. Regulatory Information

Applicable Laws & Regulation :
1. Labor Safety and Sanitation rules
2. Organic solvent poisoning prevention rules
3. The rules of the traffic safety
4. General rules of the dangerous and harmful materials
5. Standards of permissible concentration of harmful substances in the working environment
6. Storage of industrial waste clean-up processing methods and facilities standards

16. Other Information

Reference	1. CHEMINFO Archives, CCINFO Disk, 99-2 2. RTECS Archives, TOMES PLUS Disk, Vol.41, 1999 3. HSDB Archives, TOMES PLUS Disk, Vol.41, 1999	
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製表人	Position : Section Chief	Name(Signature) : Ming-Li Chang
製表日期	2012/1/10	

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