Safety Data Sheet

Issue Date: 01-May-2011 **Revision Date:** 05-May-2014 **Version** 1

1. IDENTIFICATION

Product Identifier

Product Name Potassium Hydroxide

Other means of identification

SDS # AHM-002

Synonyms Caustic Potash, Potash Lye, KOH, GE Material D4B11.

UN/ID No UN1814

Recommended use of the chemical and restrictions on use

Recommended Use Electrolyte.

Details of the supplier of the safety data sheet

Supplier Address

Arizona Hydrogen Mtg. Inc.
4102 E Air Ln.
Phoenix, AZ 85034

Emergency Telephone Number

Company Phone Number 602-275-4126

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Clear liquid **Physical State** Liquid **Odor** No odor

Classification

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1

Signal Word

Danger

Hazard Statements

Harmful if swallowed
Causes severe skin burns and eye damage

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

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/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a poison center or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do not induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms Caustic Potash, Potash Lye, KOH, GE Material D4B11.

Chemical Name	CAS No	Weight-%
Water	7732-18-5	<65
Potassium hydroxide	1310-58-3	>35

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice.

Skin Contact Wash off immediately with plenty of water. Take off contaminated clothing. Wash contaminated clothing before reuse.

Inhalation Remove to fresh air. Oxygen or artificial respiration if needed. Call a physician immediately.

Ingestion Drink plenty of water or milk immediately. Drink citrus juice or diluted vinegar to neutralize. Do not induce vomiting. Call a poison center or doctor/physician if you feel unwell.

Most important symptoms and effects

Symptoms Corrosive to all body tissues with which it comes in contact.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Carbon dioxide (CO2).

Specific Hazards Arising from the Chemical
This material could become molten or sufficiently hot to react violently with water during a fire-fighting task. Contact with metals may evolve flammable hydrogen gas. Reacts with carbon dioxide.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment as required.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Contain and collect with an inert absorbent and place into an appropriate container for disposal. Dilute remaining residue with water and neutralize with dilute acetic acid (vinegar).

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Wash thoroughly after handling. Use personal protection recommended in Section 8. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. When dissolving in water, add product slowly to surface of water with constant stirring. Avoid violent spattering.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Store away from incompatible materials. Protect container from physical damage.

Incompatible Materials Strong acids. Organic chemicals. Nitrocarbons. Chlorocarbons. Leather. Wool. This product is corrosive to aluminum, tin, zinc, and alloys which contain these metals (liberates hydrogen).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m^3	(vacated) Ceiling: 2 mg/m^3	Ceiling: 2 mg/m^3

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Chemical goggles or full face shield.

Skin and Body Protection Wear rubber or neoprene gloves. Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory Protection If engineering controls do not keep airborne concentrations below acceptable levels, wear a NIOSH-approved respirator.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid		
Appearance	Clear liquid	**Odor**	No odor
Color	Not determined	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	12.0	
Melting Point/Freezing Point	40 °C / 104 °F	
Boiling Point/Boiling Range	290 °C / 554 °F	
Flash Point	None-Not combustible	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	n/a-liquid	
Upper Flammability Limits	Not applicable	
Lower Flammability Limit	Not applicable	
Vapor Pressure	1.0	
Vapor Density	Not determined	
Specific Gravity	1.52	
Water Solubility	Completely soluble	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not available	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
This product reacts with carbon dioxide from the air to form potassium carbonate. Will react with water to produce heat. Product reacts with trichloroethylene to form spontaneously flammable dichloroacetylene.

Conditions to Avoid
Keep out of reach of children.

Incompatible Materials
Strong acids. Organic chemicals. Nitrocarbons. Chlorocarbons. Leather. Wool. This product is corrosive to aluminum, tin, zinc, and alloys which contain these metals (liberates hydrogen).

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Causes severe eye damage.

Skin Contact Causes severe skin burns.

Inhalation Avoid breathing vapors or mists.

Ingestion Harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium hydroxide 1310-58-3	= 214 mg/kg (Rat)	-	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity
Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium hydroxide 1310-58-3		80: 96 h Gambusia affinis mg/L LC50 static		

Persistence/Degradability
Not determined.

Bioaccumulation
Not determined.

Mobility

Chemical Name	Partition Coefficient
Potassium hydroxide 1310-58-3	0.83

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Potassium hydroxide 1310-58-3	Toxic Corrosive

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No	UN1814
Proper Shipping Name	Potassium hydroxide, solution
Hazard Class	8
Packing Group	III

IATA

UN/ID No	UN1814
Proper Shipping Name	Potassium hydroxide, solution
Hazard Class	8
Packing Group	III

IMDG

UN/ID No	UN1814
Proper Shipping Name	Potassium hydroxide, solution
Hazard Class	8
Packing Group	III

15. REGULATORY INFORMATION

International Inventories
Not determined

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

US Federal Regulations

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Potassium hydroxide 1310-58-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

SARA 313

Not determined

CWA (Clean Water Act)

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium hydroxide 1310-58-3 (>35)	1000 lb			X

US State Regulations

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Potassium hydroxide 1310-58-3	X	X	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	Not determined	Not determined	Not determined	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	Not determined	Not determined	Not determined	Not determined

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Disclaimer

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 a 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.

End of Safety Data Sheet