Section 1 - Product and Company Information

Product Name: POTASSIUM HYDROXIDE, PELLETS, 99.99%, SEMICONDUCTOR GRADE (NO BULK SALES ALLOWED)
Product Number: 306568
Brand: SIAL
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS MO 63103 US
Technical Phone: 314 771 5765
Emergency Phone: 414 273 3850 Ext. 5996
Fax: 800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name: POTASSIUM HYDROXIDE
CAS #: 1310-58-3
SARA 313: No

Formula: KOH
Synonyms: Caustic potash * Hydroxyde de potassium (French) * Kaliumhydroxid (German) * Kaliumhydroxyde (Dutch) * LYE * Potassa * Potasse caustique (French) * Potassio (idrossido di) (Italian) * Potassium hydrate * Potassium hydroxide (ACGIH) * Potassium (hydroxyde de) (French)

RTECS Number: TT2100000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Corrosive. Harmful if swallowed. Causes severe burns.

HMIS RATING
HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 1
SPECIAL HAZARD(S): Water reactive

NFPA RATING
HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 1
SPECIAL HAZARD(S): Water reactive

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is
conscious. Call a physician immediately.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

CONDITIONS OF FLAMMABILITY
May react with metals, releasing flammable hydrogen gas.

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.
Unsuitable: Do not use water.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
SPECIAL REQUIREMENTS

Air sensitive. Very hygroscopic.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Type</th>
<th>Value</th>
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<tbody>
<tr>
<td>USA</td>
<td>ACGIH</td>
<td>Ceiling co2</td>
<td>MG/M3</td>
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<tr>
<td>New Zealand</td>
<td>OEL</td>
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<td>ACGIH TLV</td>
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<td>USA</td>
<td>NIOSH</td>
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<td>MG/M3</td>
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EXPOSURE LIMITS

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<th>Source</th>
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<th>Value</th>
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<tr>
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Section 9 - Physical/Chemical Properties

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<td>pH</td>
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<td>MP/MP Range</td>
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<td>Freezing Point</td>
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<tr>
<td>Vapor Pressure</td>
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<td>Vapor Pressure At 719 °C</td>
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<td>Vapor Density</td>
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<td>Refractive Index</td>
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Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions of Instability: Absorbs carbon dioxide from air. Heat of solution is very high, and with limited amounts of water, violent boiling may occur.
Conditions to Avoid: Tin. Do not heat above melting point.
Materials to Avoid: Nitro compounds, Zinc, Organic materials, Magnesium, Copper, Water, Aluminum.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Hydrogen gas, Carbon monoxide, Potassium oxides.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: Causes severe burns.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes severe burns.
Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE
Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.
Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA
Oral
Rat
273 mg/kg
LD50
24 HR
other fish
80 ppm
TLM

Oral
Rat
273 mg/kg
LD50

IRRITATION DATA
Skin
Human
50 mg
24 HR
Remarks: Severe irritation effect
Skin
Rabbit
50 mg
24 HR
Remarks: Severe irritation effect
Skin
Rabbit
1 mg
24 HR
Remarks: Mild irritation effect
Skin
Human
50 mg
24H
Remarks: Severe irritation effect
Skin
Rabbit
50 mg
24H
Remarks: Severe irritation effect
Skin
Rabbit
1 mg
24H
Remarks: Severe irritation effect
Skin
Guinea pig
50 mg
24H
Remarks: Severe irritation effect

CHRONIC EXPOSURE - MUTAGEN

Species: Rat
Dose: 1800 MG/KG
Cell Type: Ascites tumor
Mutation test: Cytogenetic analysis

Species: Hamster
Dose: 12 MMOL/L
Cell Type: ovary
Mutation test: Cytogenetic analysis

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: LC50 Fish
Species: other fish
Time: 24 h
Value: 165 mg/l

Species: other fish
Time: 24 h
Section 13 – Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 – Transport Information

DOT
Proper Shipping Name: Potassium hydroxide, solid
UN#: 1813
Class: 8
Packing Group: Packing Group II
Hazard Label: Corrosive
PIH: Not PIH

IATA
Proper Shipping Name: Potassium hydroxide, solid
IATA UN Number: 1813
Hazard Class: 8
Packing Group: II

Section 15 – Regulatory Information

EU DIRECTIVES CLASSIFICATION
Symbol of Danger: C
Indication of Danger: Corrosive.
R: 22-35
Risk Statements: Harmful if swallowed. Causes severe burns.
S: 26-36/37/39-45
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Corrosive.
Risk Statements: Harmful if swallowed. Causes severe burns.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 – Other Information
DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
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