



## **Sodium Hydroxide Pellets MSDS**

**Effective Date: September 5, 2013**

**24 Hour Emergency Contact:**

**ChemTel: (800)255-3924**

**www.pioneerforensics.com**

### **1. PRODUCT AND COMPANY IDENTIFICATION**

**Product:** Sodium Hydroxide, ACS Pellets  
**Product Number(s):** PF081  
**CAS#:** 1310-73-2  
**Synonyms:** Caustic soda; Lye; Soda lye; Sodium hydrate  
**Manufacturer:** Pioneer Forensics, LLC  
804 E. Eisenhower Blvd.  
Loveland, CO 80537  
Ph: (970) 292-8487  
**Emergency Number:** (800) 255-3924 (CHEM-TEL)  
**Customer Service:** (970) 292-8487

### **2. HAZARDS IDENTIFICATION**

**Emergency Overview:** DANGER! CORROSIVE. HARMFUL IF EXPOSED TO THE EYES OR SKIN. HARMFUL IF INHALED OR INGESTED. CAUSES BURNS TO EYES, SKIN, RESPIRATORY TRACT, AND GASTROINTESTINAL TRACT. MAY CAUSE PERMANENT DAMAGE.

*Safety Ratings:* Health: 4, Extreme      Reactivity: 3, Severe  
Flammability: 0, None      Contact: 4, Extreme

**OSHA Regulatory Status:** This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Potential Acute Health Effects:**

**Routes of Exposure:** Inhalation, ingestion, skin contact, eye contact

**Inhalation:** Corrosive. Harmful if inhaled. May cause damage to upper respiratory tract.

**Ingestion:** Corrosive. Harmful if swallowed. May cause severe and permanent damage to the gastrointestinal tract.

**Skin Contact:** Corrosive. Harmful if exposed to the skin. Causes severe burns.

**Eye Contact:** Corrosive. Harmful if exposed to the eyes. Causes severe burns. May cause permanent eye damage or blindness.

**Target Organs:** Skin, eyes, mucous membranes, lungs, gastrointestinal tract

**Chronic Health Effects:** Corrosive. Prolonged or repeated exposure to the substance can produce target organs damage.

**Aggravation of Medical Conditions:** Persons with pre-existing skin disorders or eye problems may be more susceptible to the effects of this product.

**Potential Environmental Effects:** Harmful to aquatic organisms.

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Components</u>	<u>CAS#</u>	<u>Chemical Formula</u>	<u>Formula Weight</u>	<u>Hazardous</u>	<u>% by Weight</u>
Sodium Hydroxide	1310-73-2	NaOH	40.00	Yes	100

### 4. FIRST AID MEASURES

**First Aid Procedures:**

**Inhalation:** Remove to fresh air. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Get medical attention immediately.

**Ingestion:** Do not induce vomiting. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. GET MEDICAL ATTENTION IMMEDIATELY.

**Skin Contact:** Flush affected area with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention immediately.

**Eye Contact:** Check for and remove contact lenses. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**General Advice:** In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

**Notes to Physician:** Treat symptomatically. Keep victim under observation.

### 5. FIRE FIGHTING MEASURES

**NFPA Ratings:** Health: 3      Flammability: 0      Reactivity: 1

**Flammable Properties:** Not flammable or combustible.

**Flash Point:** Not applicable

**Auto-ignition Temp:** Not applicable

**Flammable Limits in Air (% by volume):** Lower Explosion Limit: Not applicable  
Upper Explosion Limit: Not applicable

**Suitable Extinguishing Media:** Dry powder, foam, carbon dioxide

**Unsuitable Extinguishing Media:** Product generates large amounts of heat in contact with moisture. Use water only in flooding amounts to avoid ignition of other materials.

<b>Hazardous Combustion Products:</b>	Sodium oxides
<b>Specific Hazards:</b>	Fire may produce irritating, corrosive, and/or toxic gases. Contact with moisture generates large amounts of heat.
<b>Special Protective Equipment For Firefighters:</b>	As in any fire, wear MSHA/NIOSH approved (or equivalent) self-contained positive pressure or pressure-demand breathing apparatus and full protective gear.
<b>Specific Methods:</b>	Cool containers exposed to flames with flooding quantities of water until well after the fire is out. In the event of fire and/or explosion, do not breathe fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions:</b>	Ventilate area of leak or spill. Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Keep upwind. Keep out of low areas. Wear appropriate personal protective equipment as specified in the Exposure Control and Personal Protection Section 8. Avoid contact with eyes, skin, and clothing.
<b>Environmental Precautions:</b>	Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. In case of large spill, dike if needed.
<b>Methods for Containment:</b>	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Dike the spilled material, where this is possible.
<b>Methods for Cleaning Up:</b>	Absorb spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, fleece), and place in a suitable container for reclamation or disposal. Clean contaminated surface thoroughly. Never return spills in original containers for re-use. Clean up in accordance with all applicable regulations.

## 7. HANDLING AND STORAGE

<b>Handling:</b>	Wear personal protective equipment (see section 8). Use only in well-ventilated areas. Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin, eyes and clothing. Do not breathe vapors. Do not ingest. When using, do not eat, smoke, or drink. Keep away from incompatible materials and moisture. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty since they retain product residues. Observe all warnings and precautions listed for the product. Use caution when combining with water. DO NOT add water to caustic. ALWAYS add caustic to water while stirring to prevent release of heat, steam, and fumes.
<b>Storage:</b>	Store in a cool, dry, ventilated area, away from incompatible materials. Store in original container. Keep containers tightly closed and upright. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

## 8. EXPOSURE CONTROL AND PERSONAL PROTECTION

<b>Exposure Limits:</b>	ACGIH: TWA: 2 mg/m <sup>3</sup> OSHA: PEL: 2 mg/m <sup>3</sup>
<b>Engineering Controls:</b>	Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not

been established, maintain airborne levels to an acceptable level. Explosion proof exhaust ventilation should be used.

#### Personal Protective Equipment:

**Eye/Face Protection:** Wear chemical safety goggles and a face shield.

**Skin Protection:** Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

**Respiratory Protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Chemical respirator with specific cartridge and full face piece providing protection against the compound of concern. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or in any other circumstances where air-purifying respirators may not provide adequate protection.

**General Hygiene Considerations:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Solid
<b>Appearance:</b>	Deliquescent pellets
<b>Color:</b>	White
<b>Odor:</b>	Odorless
<b>Molecular Formula:</b>	NaOH
<b>Molecular Weight:</b>	40.00
<b>pH:</b>	13.5 (1% w/v aqueous at 25 °C)
<b>Specific Gravity:</b>	2.130
<b>Freezing/Melting Point:</b>	318 °C (604 °F)
<b>Boiling Point:</b>	1390 °C (2534 °F)
<b>Flash Point:</b>	Not applicable
<b>Auto Ignition Temperature:</b>	Not applicable
<b>Flammable Limits in Air (% by Volume):</b>	
<b>Upper:</b>	Not applicable
<b>Lower:</b>	Not applicable
<b>Solubility:</b>	Soluble in water.
<b>Vapor Pressure:</b>	< 18.00 mmHg at 20 °C (68 °F); 3.00 mmHg at 37 °C (99 °F)
<b>Vapor Density:</b>	1.38
<b>Odor threshold (ppm):</b>	No information found
<b>Evaporation Rate:</b>	No information found
<b>Partition Coefficient (n-octanol/water):</b>	No information found

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions.

**Conditions to Avoid:** Incompatibles, moisture, prolonged exposure to air

**Incompatible Materials:** Metals, oxidizing agents, reducing agents, acids, bases, alkalis, organic materials, water

**Hazardous Decomposition Products:** Sodium oxides

**Possibility of Hazardous Reactions:** Can react vigorously, violently, or explosively with incompatible materials listed above.

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Toxicological Data:**

Oral Rat LD50:	4090 mg/kg
Oral Mouse LD50:	6600 mg/kg
Inhalation Rat LC50:	2300 mg/m <sup>3</sup> 2 H
Inhalation Mouse LC50:	1200 mg/m <sup>3</sup> 2 H
Oral Rat LDL:	500 mg/kg

**Acute Effects:** Harmful if swallowed, inhaled, or exposed to the eyes or skin. May cause coma if inhaled. May be fatal if ingested.

**Local Effects:** Causes severe burns or irritation to eyes, skin, respiratory tract, and gastrointestinal tract.

**Sensitization:** No information found

**Chronic Effects:** Corrosive. Prolonged or repeated exposure causes serious and possibly permanent tissue damage.

**Carcinogenic Effects:** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**Skin Corrosion/Irritation:** Corrosive to skin and eyes.

**Epidemiology:** No epidemiological data is available for this product.

**Mutagenicity:** May be mutagenic based on cytogenetic data.

**Neurological Effects:** No information found

**Reproductive Effects:** No information found

**Teratogenic Effects:** No information found

**Target Organs and Symptoms:** Skin, eyes, respiratory tract, gastrointestinal tract. Irritation, burns, ulcers, conjunctivitis, corneal damage, coughing, coma, pneumonitis, pulmonary edema, abdominal pain, nausea, vomiting, diarrhea, shock, destruction of gastrointestinal organs.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicological Data:**

Immobilization LC50 Water flea ( <i>Daphnia magna</i> ):	40.38 mg/L 48 H
LC50 Western mosquito fish ( <i>Gambusia affinis</i> ):	125 mg/L 96 H

**Ecotoxicity:** Expected to be toxic to aquatic organisms.

**Environmental Effects:** Toxic to aquatic organisms. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**Persistence and Degradability:** Long term biodegradation may occur. Products of biodegradation are nontoxic.

**Partition Coefficient (n-octanol/water):** No information found

### 13. DISPOSAL INFORMATION

**Disposal Instructions:** Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. All wastes must be handled in accordance with local, state and federal regulations.

**Contaminated Packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

**Waste Codes:** D002: Waste corrosive material (pH ≤ 2 or pH ≥ 12.5, or corrosive to steel)

### 14. TRANSPORT INFORMATION

**DOT:**

**UN Number:** UN1823  
**Proper Shipping Name:** Sodium Hydroxide, Solid  
**Hazard Class:** 8  
**Packaging Group:** II  
**ERG Number:** 154

### 15. REGULATORY INFORMATION

**U.S. Federal Regulations:**

**OSHA:** This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Inventory:** Sodium Hydroxide

**U.S. EPCRA (SARA Title III):**

<b>Sections 311/312:</b>	<u>Hazard Categories</u>	<u>List (Yes/No)</u>
	Section 311 – Hazardous Chemical	Yes
	Immediate Hazard	Yes
	Delayed Hazard	No
	Fire Hazard	No
	Pressure Hazard	No
	Reactivity Hazard	No

**CERCLA:** Sodium Hydroxide: 1000 lbs

<b>International Inventories:</b>	<u>Country(s) or Region</u>	<u>Inventory Name</u>	<u>On Inventory (Yes/No)*</u>
	Australia	Australian Inventory of Chemical Substances (AICS)	Yes
	Canada	Domestic Substances List (DSL)	Yes
	Canada	Non-Domestic Substances List (NDSL)	No
	China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
	Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
	Europe	European List of Notified Chemical Substances (ELINCS)	No
	Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
	Korea	Existing Chemicals List (ECL)	Yes
	New Zealand	New Zealand Inventory	Yes
	Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

\*A "Yes" indicates that the listed component(s) of this product comply with the inventory requirements administered by the governing country(s)

## 16. OTHER INFORMATION

**Product Use:** Laboratory and/or field reagent

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**Reason for Revision:** Not applicable