

SAFETY DATA SHEET



Date of issue 5 June 2013

Version 2

Section 1. Product and company identification

GHS product identifier : Caustic Soda Beads
Product name : Caustic Soda Beads
Code : 0040
Chemical name : SODIUM HYDROXIDE, SOLID
Other means of identification : Sodium Hydroxide; Anhydrous Sodium Hydroxide, Caustic Soda; NaOH; PELS™ Caustic Soda Beads; PELS™ Plus Caustic Soda Beads
Product type : Solid.

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

Identified uses	
Chemical reagent.	
Uses advised against	Reason
None identified.	

Supplier's details

Manufacturer : Axiall, LLC
115 Perimeter Center Place
Suite 460
Atlanta, GA 30346
USA

Emergency telephone number : +1 304-455-6882

General information : msdsinfo@axiall.com

Section 2. Hazards identification

Classification of the substance or mixture : ACUTE TOXICITY: ORAL - Category 3
SKIN CORROSION/IRRITATION - Category 1A
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
AQUATIC TOXICITY (ACUTE) - Category 3
AQUATIC TOXICITY (CHRONIC) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Toxic if swallowed.
Causes severe skin burns and eye damage.
Harmful to aquatic life with long lasting effects.

Section 2. Hazards identification

Precautionary statements

- Prevention** : Wear protective gloves. Wear eye or face protection. Wear protective clothing. Avoid release to the environment. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
- Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. 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 physician.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : Reacts violently with water.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mono-constituent substance
- Chemical name** : SODIUM HYDROXIDE, SOLID
- Other means of identification** : Sodium Hydroxide; Anhydrous Sodium Hydroxide, Caustic Soda; NaOH; PELS™ Caustic Soda Beads; PELS™ Plus Caustic Soda Beads

CAS number/other identifiers

- CAS number** : 1310-73-2
- EC number** : 215-185-5
- Product code** : 0040

Ingredient name	%	CAS number
sodium hydroxide	60 - 100	1310-73-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser.

Section 4. First aid measures

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not swallow. Do not get in eyes or on skin or clothing. Do not breathe dust or mists from solutions. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Add this product only to water. Never add water to this product. Do not add to warm or hot water, a violent eruption or explosive reaction can result. May cause fire or explosion. Avoid contact with organic materials. Take any precaution to avoid mixing with strong acids. When making solutions or diluting, only add caustic soda slowly to surface of cold water while stirring. Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Caustic soda may react with various sugars to generate carbon monoxide. Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed vessels and can cause death. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not enter a storage tank or container (truck or rail) that has contained this product, even if it appears empty.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
sodium hydroxide	ACGIH TLV (United States, 3/2012). C: 2 mg/m ³

Section 8. Exposure controls/personal protection

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Chemical splash goggles and face shield.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Impervious gloves. nitrile, neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

- Appearance**
- Physical state** : Solid. [Dustless granules.]
- Color** : White.
- Odor** : Odorless.
- pH** : Strongly basic
- Melting point** : 310 to 320°C (590 to 608°F)

Section 9. Physical and chemical properties

Boiling point	: 1390°C (2534°F)
Flash point	: Closed cup: Not applicable. [Product does not sustain combustion.]
Evaporation rate	: Not applicable.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not applicable.
Vapor density	: Not applicable
Relative density	: 2.13
Bulk density (g/cm³)	: 1.12 (loosely packed)
Solubility	: Easily soluble in the following materials: cold water.
Water Solubility at room temperature	: 3470 g/l @ 100°C
Partition coefficient: n-octanol/water	: Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : Stable under recommended storage and handling conditions (see Section 7).

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid increased storage temperature. Pressure hazard

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Reactive or incompatible with the following materials: metals (Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.), acids, organic materials (May cause fire or explosion.), food sugars (Caustic soda may react with various sugars to generate carbon monoxide.), water (Aqueous reaction with caustic soda can generate heat (strongly exothermic).)

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
sodium hydroxide	LD50 Oral	Rat	0.24 g/kg	-

Conclusion/Summary : Harmful or fatal if swallowed. Harmful if inhaled.

Irritation/Corrosion

Section 11. Toxicological information

Not available.

Conclusion/Summary

- Skin** : Severely corrosive to the skin. Causes severe burns.
- Eyes** : Severely corrosive to the eyes. Causes severe burns. Direct contact with the eyes can cause irreversible damage, including blindness.
- Respiratory** : Corrosive to the respiratory system.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

- Eye contact** : Severely corrosive to the eyes. Causes severe burns. Direct contact with the eyes can cause irreversible damage, including blindness.
- Inhalation** : Harmful if inhaled. Causes burns. Corrosive to the respiratory system.
- Skin contact** : Severely corrosive to the skin. Causes severe burns.
- Ingestion** : Harmful or fatal if swallowed. May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
 - pain
 - watering
 - redness
 - Cornea opacity
 - ulcerationsDirect contact with the eyes can cause irreversible damage, including blindness.
- Inhalation** : Adverse symptoms may include the following:
 - Respiratory tract irritation
 - coughing
 - Edema

Section 11. Toxicological information

- Skin contact** : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
 ulcerations
- Ingestion** : Adverse symptoms may include the following:
 stomach pains
 nausea or vomiting
 gastric perforation
 blistering may occur

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	248.7 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
sodium hydroxide	Acute EC50 40.4 mg/l Fresh water	Daphnia - Ceriodaphnia dubia	48 hours
	Acute EC50 40.38 mg/l Fresh water	Daphnia - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 33000 to 100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 125000 µg/l Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Chronic NOEC 56 mg/l Marine water	Fish - Poecilia reticulata - Young	96 hours

- Conclusion/Summary** : Harmful to aquatic life.

Section 12. Ecological information

Persistence/degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Water solubility: Soluble

Other adverse effects : No known significant effects or critical hazards.
Do not allow to enter drains or watercourses.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	UN	IMDG	IATA
UN number	1823	1823	1823
UN proper shipping name	SODIUM HYDROXIDE, SOLID	SODIUM HYDROXIDE, SOLID	SODIUM HYDROXIDE, SOLID
Transport hazard class(es)	8	8	8
Packing group	II	II	II
Environmental hazards	No.	No.	No.
Special precautions for user	-	-	-
Additional information	-	-	-

Section 14. Transport information

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product : No known specific national and/or regional regulations applicable to this product (including its ingredients).

Section 16. Other information

History

Date of printing : 6/5/2013.

Date of issue/Date of revision : **6/5/2013.**

Date of previous issue :

Version : **2**

EHS

Key to abbreviations : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
UN = United Nations

References : Not available.

✔ Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by Axiall, LLC; and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.