Material Safety Data Sheets

Revision 2

1. IDENTIFICATION

Product Name	**Sodium Hydroxide granulated Extra pure**
Other Names	Caustic Soda; SODIUM HYDROXIDE (Na(OH));
Code No	200-SH-1
Uses	Used to neutralize acids, make sodium salts and to hydrolize fats to form soaps. To treat cellulose in making viscose rayon and cellophane. To precipitate alkaloids and most metals from water solutions of their salts. Gold mining a pH adjuster. Industrial cleaning applications in sugar industry.
Chemical Family	No Data Available
Chemical Formula	NaOH
Chemical Name	Caustic Soda
Product Description	No Data Available
Company	Arman sina.co
Contact Information	info@armansina.com www.armansina.com

2. HAZARD IDENTIFICATION

Classification	Coresivition
Hazard Statements	May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage.
Precautionary Statements	Keep only in original container. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. Absorb spillage to prevent material damage.

Symbol

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Sodium Hydroxide	NaOH	1310-73-2	100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	**Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. If vomiting occurs, lean patient forward or place on left side (head-down position if possible) to maintain open airway and prevent aspiration.Seek immediate medical assistance.**
Eye	**Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention.**
Skin	**If skin or hair contact occurs, immediately remove any contaminated clothing and flush skin and hair with running water. If redness, swelling, blistering or irritation occurs, seek medical advice. For skin burns, flood burnt area with plenty of water and cover with a clean, dry dressing. Seek immediate medical attention.**
Inhaled	**Remove victim from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth to mouth method. Induce artificial respiration with the aid of a pocket mask equipped with a one way valve or other proper respiratory medical device. Seek medical attention immediately.**
Advice to Doctor	**Treat symptomatically based on judgement of doctor and individual reactions of patient. Can cause corneal burns.**
Medical Conditions Aggravated by Exposure	**No information available on medical conditions aggravated by exposure to this product.**

5. FIRE FIGHTING MEASURES

General Measures	**If safe to do so, remove containers from the path of fire.**
Flammability Conditions	**Contact with metals may liberate hydrogen gas which is extremely flammable.**
Extinguishing Media	**In case of fire, appropriate extinguishing media include fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).**
Fire and Explosion Hazard	**Non-combustible material.**
Hazardous Products of Combustion	**Corrosive to aluminium, tin, and zinc, liberating flammable hydrogen gas. Reacts violently with acids. Reacts with ammonium salts liberating ammonia gas. Reacts exothermically on dilution with water.**
Special Fire Fighting Instructions	**Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.**
Personal Protective Equipment	**Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit. Please note: Structural fire fighters uniform will provide limited protection.**
Flash Point	**No Data Available**
Lower Explosion Limit	**No Data Available**
Upper Explosion Limit	**No Data Available**
Auto Ignition Temperature	**No Data Available**
Hazchem Code	**2R**

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	**Avoid accidents, clean up immediately. Slippery when spilt. Eliminate all sources of ignition. Increase ventilation. Isolate the danger area. Use clean, non-sparking tools and equipment. Shut off all possible sources if ignition.**
Clean Up Procedures	**Soak up spilled product using absorbent non-combustible material such as sand or soil. Avoid using sawdust or cellulose. When saturated collect material, transfer to suitable, labelled, dry chemical-waste containers and dispose of promptly as hazardous waste.**
Containment	**Stop leak if safe to do so.**
Environmental Precautionary Measures	**Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.**
Evacuation Criteria	**Evacuate all unnecessary personnel.**

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure. Remove contaminated clothing and wash before reuse. Discard contaminated shoes. Keep away from combustible material. Empty containers pose a fire risk, evaporate residue under a fume hood. Chemicals should be used only by those trained in handling potentially hazardous materials.
Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Protect from direct sunlight. Store away from foodstuffs. Do not store in aluminium or galvanized containers nor use die-cast zinc or aluminium bungs; plastic bungs should be used. At temperatures greater than 1824 and a Dangerous Goods Class 8 (Corrosive) according to The Australian Code for the Transport of Dangerous goods By Road and Rail.
Container	Container type/packaging must comply with all applicable local legislation. Store in original packaging as approved by manufacturer. Do not store in aluminium or galvanised containers nor use die-cast zinc or aluminium bungs; plastic when not in use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC); Sodium Hydroxide cas no 1310-73-2 TWA = 2mg/m3 Peak Limitation NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. Peak limitation is a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded. Adequate ventilation should be provided so that exposure limits are not exceeded.
Personal Protection Equipment	RESPIRATOR: Wear a respirator with suitable filter for organic gases and vapours (Type A) if engineering controls are inadequate (AS1715/1716). EYES: Chemical goggles to prevent splashing in the eyes (AS1336/1337). HANDS: Elbow length impervious gloves (AS2161). CLOTHING: Chemical-resistant coveralls, splash apron and safety footwear (AS3765/2210).
Work Hygienic Practices	Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Odour Threshold	Not applicable
pH	ca. > 14 at 100 g/l 20 ° C
Melting point/range	319 - 322 ° C
Boiling point/boiling range	1.390 ° C at 1.013 hPa
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable

Vapour pressure	at 20 ° C Not applicable
Relative vapour density	No information available.
Density	2,13 g/cm3 at 20 ° C
Relative density	No information available.
Water solubility	1.090 g/l at 20 ° C
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

10. STABILITY AND REACTIVITY

General Information	Corrosive.
Chemical Stability	hygroscopic
Conditions to Avoid	Exposure to moisture
Materials to Avoid	Incompatible with acids , ammonium salts, aluminium, tin, and zinc .
Hazardous Decomposition Products	Corrosive to aluminium, tin, and zinc, liberating flammable hydrogen gas. Reacts violently with acids. Reacts with ammonium salts liberating ammonia gas. Reacts exothermically on dilution with water.
Hazardous Polymerisation	No Data Available

11. TOXICOLOGICAL INFORMATION

General Information	Rabbit skin: Severe Irritant
EyeIrritant	A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.
Ingestion	Swallowing can result in nausea, vomiting, diarrhea, abdominal pain and chemical burns to the gastrointestinal tract.
Inhalation	Breathing in mists or aerosols may produce respiratory irritation.
SkinIrritant	Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Toxicity	Toxicity to fish LC50 Gambusia affinis (Mosquito fish): 125 mg/l; 96 h (External MSDS) Toxicity to daphnia and other aquatic invertebrates EC50 Ceriodaphnia (water flea): 40,4 mg/l; 48 h (ECHA)
Persistence/Degradability	No information available on persistence/degradability for this product.
Mobility	No information available on mobility for this product.
Environmental Fate	Avoid contaminating drains, sewers and waterways.
Bioaccumulation Potential	This substance does not bioaccumulate.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local regulations. All empty packaging should be disposed of in accordance with Local Regulations or recycled/reconditioned at an approved facility. Decontamination and destruction of containers should be considered.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice.

14. TRANSPORT INFORMATION

Land Transport

Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
ERG	154 Substances - Toxic and/or Corrosive (Non-Combustible)
UN Number	1823
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Sea Transport
IMDG

Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	1823
Hazchem	2R
Pack Group	II
Special Provision	No Data Available
EMS	FA,SB
Marine Pollutant	No

Air Transport
IATA

Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	1823
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

15. OTHER INFORMATION

Revision	**2**
Key/Legend	**< Less Than** **> Greater Than** **atm Atmosphere** **CAS Chemical Abstracts Service (Registry Number)** **cm Square Centimetres** **CO2 Carbon Dioxide** **COD Chemical Oxygen Demand** **Degrees Celsius** **EPA (New Zealand) Environmental Protection Authority of New Zealand** **Degrees Fahrenheit** **g Grams** **g/cm Grams per Cubic Centimetre** **g/l Grams per Litre** **HSNO Hazardous Substance and New Organism** **IDLH Immediately Dangerous to Life and Health** **immiscible Liquids are insoluable in each other.** **inHg Inch of Mercury** **inH2O Inch of Water** **K Kelvin** **kg Kilogram** **kg/m Kilograms per Cubic Metre** **lb Pound** **LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.** **LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.** **ltr or L Litre** **m Cubic Metre** **mbar Millibar** **mg Milligram** **mg/24H Milligrams per 24 Hours** **mg/kg Milligrams per Kilogram** **mg/m Milligrams per Cubic Metre** **Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.** **mm Millimetre** **mmH2O Millimetres of Water** **mPa.s Millipascals per Second** **N/A Not Applicable** **NIOSH National Institute for Occupational Safety and Health** **NOHSC National Occupational Heath and Safety Commission** **OECD Organisation for Economic Co-operation and Development** **Oz Ounce** **PEL Permissible Exposure Limit** **Pa Pascal** **ppb Parts per Billion** **ppm Parts per Million** **ppm/2h Parts per Million per 2 Hours** **ppm/6h Parts per Million per 6 Hours** **psi Pounds per Square Inch** **R Rankine** **RCP Reciprocal Calculation Procedure** **STEL Short Term Exposure Limit** **TLV Threshold Limit Value** **tne Tonne** **TWA Time Weighted Average** **ug/24H Micrograms per 24 Hours** **UN United Nations** **wt Weight**