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SAFETY DATA SHEET

CAUSTIC HYDROXIDE SOLID/PEARL CAUSTIC SODA

COMPOSITION / INFORMATION ON INGREDIENTS	
Common Chemical Names	Caustic Soda Pearl 99% .
Synonyms	
Chemical Family	Oxidising Agent.
EINECS	215-185-5
CAS Name & Number	Sodium hydroxide 1310-73-2.
Ingredients contributing to the hazard	Sodium hydroxide

HAZARDS IDENTIFICATION	
Most Important Hazard	Corrosive and caustic
Risk Phrases	R35 - Causes severe burns
Safety Phrases	S28 - After contact with skin, wash immediately with plenty of water. S45 - In case of accident or if you feel unwell, seek medical advice immediately (show label where possible). S50 - Do not mix with acids.

FIRST AID MEASURES	
Eye Contact	Immediately flood with copious amounts of water holding the eye open if necessary. Obtain medical attention.
Skin Contact	Immediately wash with water, preferably under a shower, removing contaminated clothing as washing proceeds. Obtain medical attention if irritation persists or if blistering occurs. Contaminated clothing should be washed before re-use.
Inhalation	Remove from exposure. Keep warm and at rest. If there is respiratory distress, give oxygen. If respiration stops or shows signs of failing apply artificial respiration. Obtain medical attention urgently.
Ingestion	Wash out mouth with water, give plenty of water or milk to drink. Obtain medical attention. Do not induce vomiting. Treatment may be needed for pain and shock.
Note for Doctors	Harmful by ingestion, inhalation, skin and eye contact. Local corrosive effects predominate. No known systemic effects. No specific antidotal treatment, symptomatic support required. No known delayed effects after single exposure apart from consequence of local tissue damage.

FIRE FIGHTING MEASURES	
Extinguishing Media	Not applicable. Sodium hydroxide solution is non flammable.

ACCIDENTAL RELEASE MEASURES	
Personnel Precautions	Wear full protective equipment. See Exposure Controls/Personal Protection (section 8).
Environmental Precautions	If spillage or contaminated washings causes contamination of water courses, drains or vegetation inform relevant authorities.

ACCIDENTAL RELEASE MEASURES CONT..	
Methods for Cleaning Up	Small spillages - neutralise with anhydrous sodium sulphate, wash residues away with copious amounts of water. Collect and treat all water used in the clean up. Large spillages - prevent product from reaching drains etc.. Contain spillage using earth or sand and pump into an emergency tank. Dispose of, if necessary using licensed waste disposal contractors. Wash down area with water. Collect and treat all water used in the clean up.

HANDLING AND STORAGE		
Handling	Wear protective clothing. Provide safety showers and eye baths in areas where accidental exposure is possible.	
Storage	Sodium hydroxide should be stored in a closed vessel. Sodium hydroxide should be stored away from reactive chemicals. Product decomposes slowly on standing with the evolution of some oxygen. Rate of decomposition can be minimised by careful control of quality and storage conditions. Factors that increase the rate of decomposition are, high initial concentration, increase in temperature, certain metallic impurities, fall in pH below 11, and exposure to light.	
Materials	**Unsuitable**	**Suitable**
	Nickel and its alloys	Rubber (certain types)
	Cobalt	Ceramic
	Copper and its alloys	Glass
	Mild steel	Lined mild steel
	Stainless steel	PVC
	(Essentially all metals except Titanium)	PVC lined GRP
		High Density Polythene
		Titanium
		PTFE and similar fluorinated polymers

EXPOSURE CONTROLS / PERSONAL PROTECTION	
Personal Protective Equipment	PVC suit PVC or rubber footwear PVC gloves Chemical goggles Nylon and wool are rapidly corroded, cotton is preferred. Terylene is resistant, but can be easily penetrated.
Occupational Exposure Limits	TWA: NOT ASSIGNED STEL: NOT ASSIGNED EH40 - 1995
Installation Control	See Handling and Storage (section 7)

PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Clear, greenish-yellow liquid
Density **Vapour (air @ 1.0)** **Liquid kg/m^3 at °C** **Bulk kg/m^3 at °C**	1245 at 20°C
Odour	Characteristic bleach odour
Molecular Weight	74.44 (NaOCl)
pH	Not applicable
Solubility	Completely soluble in water
Boiling Point °C	approx. 107°C
Melting Point °C	Crystals of sodium chloride form at low temperatures. Solution solidifies at -25°C.
Vapour Pressure at °C	Similar to water at ambient temperatures
Flash Point	Not applicable
Flammability	Not applicable
Auto Flammability	Not applicable

STABILITY AND REACTIVITY	
Stability	Product decomposes over time - see Handling and Storage (section 7)
Conditions to Avoid	See Handling and Storage (section 7)
Materials to Avoid	
- Water	No dangerous reaction, completely soluble
- Air	No dangerous reaction
- Bases/Alkalis	No reaction. Alkaline hydroxides act as stablizers and are added to commercial preparations.
- Oxidizing Agents	Sodium or hydrogen peroxides: exothermic decomposition with liberation of oxygen. Other oxidising agents: possible evolution of oxygen or chlorine.
- Other Chemicals	Readily oxidizes most organic matter and dangerous reactions are possible with alcohols, aldehydes, ketones, unsaturated hydro and halocarbons. Explosive reactions are possible with ammonia and ammonium compounds.
Hazardous Decomposition Products	Chlorine will be evolved if product is inadvertently mixed with incompatible materials (see above).

TOXICOLOGICAL INFORMATION	
Effect of Substance	
- On Eyes	Liquid: severe damage, even on short duration. Vapour: irritation.
- On Skin	Liquid: sever irritation and burns if contact prolonged. Vapour: little or no effect.
- By Skin Absorption	No systemic effects by any route of exposure.
- By Ingestion	Severe irritation and corrosion of the mouth, throat and digestive tract.
- When Inhaled (acute effect)	Exposure to the mist or spray causes irritation of the nose, throat and respiratory tract.
- When Inhaled (chronic effect)	Not known.

ECOLOGICAL INFORMATION
1ppm available chlorine is toxic to all fish. 0.4ppm available chlorine is toxic game fish.

DISPOSAL CONSIDERATIONS	
Spillages	Wear full protective clothing. See Exposure Controls/Personal Protection (section 8). See Accidental Release Measures (section 6).
Waste	Dispose of sodium hydroxide solutions or materials contaminated with sodium hydroxide using a licensed contractor in accordance with Waste Disposal Regulations.

TRANSPORT INFORMATION	
UN Number	1791, Class 8, corrosive substance.
ADR/RID Classification	8, 81° (c) ADR 5-16%, available chlorine HIN.80
IMO Classification	8, corrosive.
IATA Classification	Passenger - 1 litre max. Cargo - 30 litres max.
HAZCHEM Code	2X.
TREMCARD Number	45/80G12
Normal Carriage Pressure	Atmospheric.
Normal Carriage Temperature	Ambient.

REGULATORY INFORMATION	
Relevant Statutory Instruments	
1906	Alkali etc. Works Regulations Act and Amendments
1961	Factories Act
SI 1988/1657	Control of Substances Hazardous to Health Regulations
SI 1990/304	The Dangerous Substances (Notification and Marking of Sites) Regulations
SI 1991/472	The Environmental Protection (prescribed processes and substances) Regulations
SI 1992/742	The Road Traffic (Carriage of Dangerous Substances in Packages etc.) Regulations
SI 1992/743	The Road Traffic (Carriage of Dangerous Substances in Road Tankers and Tank Containers) Regulations
SI 1994/3247	The Chemicals (Hazard, Information and Packaging) Regulations (CHIP2)