SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Sodium hydroxide solution
Number	:	000000020410
Product Use Description	:	Laboratory chemicals
Manufacturer or supplier's details	:	Honeywell International Inc. 1953 South Harvey Street Muskegon, MI 49442
For more information call	:	1-800-368-0050 +1-231-726-3171 (Monday-Friday, 9:00am-5:00pm)
In case of emergency call	:	**Medical: 1-800-498-5701 or +1-303-389-1414**
	:	**Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
	:	
	:	(24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Form	:	liquid
Color	:	colourless
Odor	:	odourless

Classification of the substance or mixture

Classification of the substance or mixture	:	Corrosive to metals, Category 1 Skin corrosion, Category 1B Serious eye damage, Category 1

GHS Label elements, including precautionary statements

Symbol(s) :

Signal word : Danger

Hazard statements : May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**
Keep only in original container.
Wash skin thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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/doctor.
Specific treatment (see supplemental first aid instructions on this label).
Wash contaminated clothing before reuse.
Absorb spillage to prevent material damage.

Storage:
Store locked up.
Store in corrosive resistant container with a resistant inner liner.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : HNaO

Chemical nature : Mixture

Chemical name	CAS-No.	Concentration
Water	7732-18-5	96.00 %
Sodium hydroxide	1310-73-2	4.00 %

SECTION 4. FIRST AID MEASURES

General advice : First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation : If inhaled, remove to fresh air. Call a physician.

Skin contact : Wash off immediately with plenty of water. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

Eye contact : Protect unharmed eye. Rinse thoroughly with plenty of water, also under the eyelids. Call a physician immediately.

Ingestion : When swallowed, allow water to be drunk. Do NOT induce vomiting. Call a physician immediately.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray
Dry powder
Foam
Carbon dioxide (CO2)

Specific hazards during firefighting : Material can create slippery conditions.
The product itself does not burn.

Special protective equipment for firefighters : No unprotected exposed skin areas.
Wear self-contained breathing apparatus and protective suit.

Further information : Use extinguishing measures that are appropriate to local

circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Evacuate personnel to safe areas. Wear personal protective equipment. Unprotected persons must be kept away. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities. Do not flush into surface water or sanitary sewer system.
Methods for cleaning up	:	Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.
Additional advice	:	Spilling onto the container's outside will make container slippery.

SECTION 7. HANDLING AND STORAGE

Handling

Handling	:	Wear personal protective equipment. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing.
Advice on protection against fire and explosion	:	The product itself does not burn. Normal measures for preventive fire protection. Contact with metals liberates hydrogen gas.

Storage

Requirements for storage areas and containers	:	Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from physical damage.
Advice on common storage	:	Do not store near acids. Keep away from metals.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.
Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment.
Do not breathe vapours or spray mist.
Do not get in eyes, on skin, or on clothing.

Engineering measures : Use with local exhaust ventilation.

Eye protection : Face-shield
Safety goggles

Hand protection : Impervious gloves
Gloves must be inspected prior to use.
Replace when worn.

Skin and body protection : Protective suit

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

Hygiene measures : Take off all contaminated clothing immediately.
Separate rooms are required for washing, showering and changing clothes.
Keep working clothes separately.
Wash hands before breaks and at the end of workday.
Recommended preventive skin protection

Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis
Sodium hydroxide	1310-73-2	Ceiling : Ceiling Limit Value:	2 mg/m3	2008	ACGIH:US. ACGIH Threshold Limit Values
Sodium hydroxide	1310-73-2	Ceil_Time : Ceiling Limit Value and Time Period (if specified) :	2 mg/m3	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards

Sodium hydroxide	1310-73-2	PEL : Permissible exposure limit	2 mg/m3	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Sodium hydroxide	1310-73-2	Ceiling : Ceiling Limit Value:	2 mg/m3	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Color	:	colourless
Odor	:	odourless
pH	:	13 - 14
Melting point/range	:	< 0 °C
Boiling point/boiling range	:	> 100 °C
Flash point	:	Note: Not applicable
Flammability	:	Not applicable
Lower explosion limit	:	Note: Not applicable
Upper explosion limit	:	Note: Not applicable
Vapor pressure	:	Note: similar to water
Density	:	ca. 1.04 g/cm3 at 20 °C

Water solubility	:	Note: completely miscible
Partition coefficient: n-octanol/water	:	Note: no data available
Ignition temperature	:	Note: Not applicable
Auto-ignition temperature	:	Note: not auto-flammable
Decomposition temperature	:	Note: No decomposition if used as directed.
Viscosity, dynamic	:	Note: no data available
Viscosity, kinematic	:	Note: no data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	40 g/mol
Bulk density	:	Note: Not applicable
Corrosivity	:	Note: Corrosive to metals

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous polymerisation does not occur. Exothermic reaction with strong acids. Corrosive in contact with metals
Conditions to avoid	:	Protect from contamination.
Incompatible materials to avoid	:	Gives off hydrogen by reaction with metals. Exothermic reaction with strong acids.
Hazardous decomposition products	:	No hazardous decomposition products known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	Note: Not classified due to data which are conclusive although insufficient for classification.
Acute inhalation toxicity	:	Note: Not classified due to data which are conclusive although insufficient for classification.
Acute dermal toxicity	:	Note: Not classified due to data which are conclusive although insufficient for classification.
Skin irritation	:	Note: Classification based on Annex VI of regulation 1272/2008/EC.
Eye irritation	:	Note: Classification based on Annex VI of regulation 1272/2008/EC.
Sensitisation	:	Species: Humans Result: Does not cause skin sensitisation.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish	:	Note: Not classified due to data which are conclusive although insufficient for classification.
Toxicity to daphnia and other aquatic invertebrates	:	EC50: 40.4 mg/l Exposure time: 48 h Species: Ceriodaphnia (water flea) Test substance: anhydrous substance
Toxicity to algae	:	Note: Not classified due to data which are conclusive although insufficient for classification.

Further information on ecology

Additional ecological information	:	The methods for determining biodegradability are not applicable to inorganic substances.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods	:	Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT	UN/ID No.	:	UN 1824
	Proper shipping name	:	SODIUM HYDROXIDE SOLUTION
	Class		8
	Packing group		II
	Hazard Labels		8
IATA	UN/ID No.	:	UN 1824
	Description of the goods	:	SODIUM HYDROXIDE SOLUTION
	Class	:	8
	Packaging group	:	II
	Hazard Labels	:	8
	Packing instruction (cargo aircraft)	:	855
	Packing instruction (passenger aircraft)	:	851
	Packing instruction (passenger aircraft)	:	Y840
IMDG	UN/ID No.	:	UN 1824
	Description of the goods	:	SODIUM HYDROXIDE SOLUTION
	Class	:	8
	Packaging group	:	II
	Hazard Labels	:	8
	EmS Number	:	F-A, S-B
	Marine pollutant	:	no

SECTION 15. REGULATORY INFORMATION

Inventories

US. Toxic Substances Control Act	:	On TSCA Inventory
Australia. Industrial Chemical (Notification and Assessment) Act	:	On the inventory, or in compliance with the inventory
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	:	All components of this product are on the Canadian DSL
Japan. Kashin-Hou Law List	:	On the inventory, or in compliance with the inventory
Korea. Toxic Chemical Control Law (TCCL) List	:	On the inventory, or in compliance with the inventory
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	:	On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances	:	On the inventory, or in compliance with the inventory
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	:	On the inventory, or in compliance with the inventory

National regulatory information

US. EPA CERCLA Hazardous Substances (40 CFR 302)	:	The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ): Reportable quantity: 1000 lbs Sodium hydroxide 1310-73-2
SARA 302 Components	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	:	Acute Health Hazard

California Prop. 65	:	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.	
Massachusetts RTK	:	Sodium hydroxide	1310-73-2
New Jersey RTK	:	Sodium hydroxide	1310-73-2
Pennsylvania RTK	:	Sodium hydroxide	1310-73-2

SECTION 16. OTHER INFORMATION

		HMIS III	NFPA
Health hazard	:	3*	3
Flammability	:	0	0
Physical Hazard	:	1	
Instability	:		1

* - Chronic health hazard
Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group