

Information (M-F 8:00-5:00): 705-436-5580

Sodium Hydroxide (Solid Prills)

SDS Preparation Date (mm/dd/yyyy): 07/21/2015

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: Sodium Hydroxide (Solid Prills)

Product Code(s) : Not available.

Recommended use of the chemical and restrictions on use

: Neutralizing agent; Industrial cleaner additive; Paper production; Water and waste

water treatment. Use pattern: Professional Use Only Recommended restrictions: No restrictions on use known.

Chemical family : Inorganic acid

Name, address, and telephone number Name, address, and telephone number of

of the supplier: the manufacturer:

Comet Chemical Company Ltd. Refer to supplier

3463 Thomas Street

Innisfill, ON, Canada

L9S 3W4

Supplier's Telephone # : Information (M-F 8:00-5:00): 705-436-5580

24 Hr. Emergency Tel # : TERRRAPURE ENVIRONMENTAL : 800-567-7455

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Greyish-white crystals or flakes (solid)

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Corrosive to Metals - Category 1 Skin Corrosion/Irritation - Category 1 Eye Damage/Irritation - Category 1

Specific Target Organ Toxicity, Single Exposure -Category 3 (respiratory)

Label elements

Hazard pictogram(s)





Signal Word

DANGER!

Hazard statement(s)

May be corrosive to metals.

Causes severe skin burns and eye damage.

May cause respiratory irritation.



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Precautionary statement(s)

Keep only in original container.

Do not breathe dust.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/clothing and eye/face protection.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER or doctor/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 doctor/physician.

Absorb spillage to prevent material damage.

Store in corrosive resistant container with a resistant inner liner.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:

Contact with most metals will generate flammable hydrogen gas. Contact with water gives off heat. Burning produces obnoxious and toxic fumes. Chronic skin contact with low concentrations may cause dermatitis.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

Chemical name	Common name and synonyms	CAS#	<u>Concentration</u>
sodium hydroxide	Caustic soda Sodium hydrate soda lye	1310-73-2	100.00

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion : Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

Have victim rinse mouth with water, then give one to two glasses of water to drink.

Seek immediate medical attention/advice.

Inhalation : Immediately remove person to fresh air. If breathing is difficult, give oxygen by

qualified medical personnel only. If breathing has stopped, give artificial respiration.

Seek immediate medical attention/advice.

Skin contact : Wear appropriate protective equipment. Remove/Take off immediately all

contaminated clothing. Immediately flush skin with gently flowing, running water for at least 20 minutes. Do not rub area of contact. Obtain medical attention immediately. Wash contaminated clothing before reuse. Contaminated leather may require

disposal.

Eye contact : Wear appropriate protective equipment. Protect unharmed eye. If in contact with eyes,

immediately flush eyes with running water for at least 20 minutes. If contact lens is present, DO NOT delay flushing or attempt to remove the lens until flushing is done.

Obtain medical attention immediately.



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Most important symptoms and effects, both acute and delayed

: Causes severe skin irritation. Symptoms may include redness, blistering, pain and swelling. Causes serious eye damage. Symptoms may include severe pain, blurred vision, redness and corrosive damage. May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Ingestion may cause severe burns to the mucous membranes of the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations and bleeding.

Indication of any immediate medical attention and special treatment needed

: Immediate medical attention is required. Causes chemical burns. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical. May react with water. Use water spray with caution.

Unsuitable extinguishing media

Use water spray with caution. Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

 Not considered flammable. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

Hazardous combustion products

: Sodium oxides.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Use water to cool fire-exposed containers. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply or any natural waterway. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions

Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

: Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Notify the appropriate authorities as required.



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Special spill response procedures

 If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

US CERCLA Reportable quantity (RQ): sodium hydroxide (1000 lbs / 454 kg).

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment. Do not breathe dust or fume. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep away from heat and flame. Keep away from incompatibles. May react with water, generating heat. When diluting, always add the product to water. Never add water to the product. When mixing with water, stir small amounts in slowly. Use cold water to prevent excessive heat generation. The addition of caustic soda to liquid will cause a rise in temperature. Keep containers tightly closed when not in use. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Conditions for safe storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep away from incompatibles. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Do not freeze. Store in corrosion-resistant containers. Avoid contact with aluminum.

Incompatible materials

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:					
Chemical Name	ACGIH 1	<u>rlv</u>	OSHA PEL		
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>	
sodium hydroxide	2 mg/m³ (Ceiling)	N/Av	2 mg/m³	N/Av	

Exposure controls

Ventilation and engineering measures

air concentrations below recommended exposure limits.

Respiratory protection : Respiratory protection is required if the concentrations exceed the TLV.

NIOSH-approved respirators are recommended. A self contained breathing apparatus should be used in emergency situations or instances where exposure levels are not known. Seek advice from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in

accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Wear as appropriate: Neoprene; Polyvinylchloride; Viton; Butyl

rubber; Nitrile rubber; Polyethylene. Unsuitable material: polyvinyl alcohol. Wear chemically protective gloves (impervious), boots, aprons, and gauntlets to prevent

prolonged or repeated skin contact.

Eye / face protection : Chemical splash goggles must be worn when handling this material. A full face shield

may also be necessary.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

General hygiene considerations



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Do not breathe dust or fume. Do not ingest. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Greyish-white crystals or flakes (solid)

Odour : No odour.

Odour threshold : Not applicable.

pH : 14

Melting/Freezing point : 318°C (604°F)

Initial boiling point and boiling range

: 1390°C (2534°F): Not applicable.

Flash point : Not applicable Flashpoint (Method) : Not applicable.

Evaporation rate (BuAe = 1) : N/Av

Flammability (solid, gas) : Not applicable.

Lower flammable limit (% by vol.)

Not applicable.

Upper flammable limit (% by vol.)

Not applicable.

Oxidizing properties: None known.Explosive properties: Not explosiveVapour pressure: negligibleVapour density: Not available.

Relative density / Specific gravity

2.13

Solubility in water : Very soluble

Other solubility(ies) : Soluble in absolute alcohol, methanol and glycerol. Moderately soluble in ethanol.

Insoluble in

acetone and diethyl ether.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

N/Ap

Auto-ignition temperature : N/Ap

Decomposition temperature: Not available.

Viscosity : N/Av

Volatiles (% by weight) : Not available.

Volatile organic Compounds (VOC's)

: N/Av

Absolute pressure of container

: N/Ap

Flame projection length : N/Ap

Other physical/chemical comments

: Molecular Weight: 40 g/mol Molecular formula: H-Na-O

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive. May be corrosive to metals. Contact with most metals will

generate flammable hydrogen gas. Contact with water will generate considerable heat.

Chemical stability : Material is stable under normal conditions.

Possibility of hazardous reactions

Hazardous polymerization does not occur.



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: Avoid heat and open flame. Keep away from incompatibles. Keep container tightly Conditions to avoid

closed when not in use. Avoid contact with water.

Incompatible materials Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

<u>Information on likely routes of exposure:</u>

Routes of entry inhalation : YES Routes of entry skin & eye : YES Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.

Sign and symptoms ingestion

: May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.

This material is classified as hazardous under U.S. OSHA regulations (29CFR Sign and symptoms skin

> 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Skin Irritation - Category 1 Causes severe

skin burns and eye damage.

Sign and symptoms eyes This material is classified as hazardous under U.S. OSHA regulations (29CFR

> 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Eye Damage/Irritation - Category 1

Causes serious eye damage.

Potential Chronic Health Effects

: Chronic skin contact with low concentrations may cause dermatitis.

Mutagenicity Not expected to be mutagenic in humans.

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: Not expected to have other reproductive effects.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

: Target Organs Eyes, skin, respiratory system and digestive system. Specific target organ effects

> This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products

Regulations) (WHMIS 2015).

Classification: Specific Target Organ Toxicity, Single Exposure -Category 3

(respiratory) May cause respiratory irritation.

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.



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Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

Synergistic materials : Not available.

Toxicological data : There is no data available for this product.

	LCso(4hr)	LD ₅₀			
Chemical name	inh, rat	(Oral, rat)	(Rabbit, dermal)		
sodium hydroxide	N/Av	N/Av	N/Av		

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. Toxicity is primarily associated with pH.

Ecotoxicity data:

lu mus di susta	040 N	Toxicity to Fish			
<u>Ingredients</u>	CAS No	LC50 / 96h	NOEC / 21 day	M Factor	
sodium hydroxide	1310-73-2	125 mg/L (Mosquito fish)	N/Av	None.	

<u>Ingredients</u>	CAS No	Toxicity to Daphnia					Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor					
sodium hydroxide	1310-73-2	40 mg/L Water flea	N/Av	None.					

<u>Ingredients</u>	CAS No	Toxicity to Algae					Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor					
sodium hydroxide	1310-73-2	N/Av	N/Av	None.					

Persistence and degradability

: The methods for determining biodegradability are not applicable to inorganic

substances.

Bioaccumulation potential : No data is available on the product itself.

<u>Components</u>	Partition coefficent n-octanol/ater (log Kow)	Bioconcentration factor (BCF)
sodium hydroxide (CAS	N/Ap	N/Ap
1310-73-2)		

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: No data is available on the product itself.



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SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: Handle waste according to recommendations in Section 7.

Methods of Disposal

 Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

RCRA

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261.

It is the responsibility of the waste generator to determine the proper waste

identification and disposal method.

For disposal of unused or waste material, check with local, state and federal

environmental agencies.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	UN1823	SODIUM HYDROXIDE, SOLID	8	II	8
TDG Additional information		as LIMITED QUANTITY when transported in containers no larger gross mass. Under the TDGR, refer to Section 1.17 for additionaption.			
49CFR/DOT	UN1823	SODIUM HYDROXIDE, SOLID	8	П	
		GOSIGIII TITSICOXISE, GOLIS		"	8

Special precautions for user

: None reported by the manufacturer.

Environmental hazards

See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not available.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

	TSCA		CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
<u>Ingredients</u>	CAS#	, c	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration	
sodium hydroxide	1310-73-2	Yes	1000 lb/ 454 kg	None.	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.



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US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS#	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
sodium hydroxide	1310-73-2	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS#	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
sodium hydroxide	1310-73-2	215-185-5	Present	Present	(2)-1972; (1)-410	KE-31487	Present	HSR001547

SECTION 16. OTHER INFORMATION

Legend

ACGIH: American Conference of Governmental Industrial Hygienists

CA: California

CAS: Chemical Abstract Services

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

of 1980

CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EPA: Environmental Protection Agency

HMIS: Hazardous Materials Identification System HSDB: Hazardous Substances Data Bank

IARC: International Agency for Research on Cancer IATA: International Air Transport Association ICAO: International Civil Aviation Organisation IMDG: International Maritime Dangerous Goods

Inh: Inhalation LC: Lethal Concentration LD: Lethal Dose MA: Massachusetts MN: Minnesota N/Ap: Not Applicable N/Av: Not Available

NFPA: National Fire Protection Association

NIOSH: National Institute of Occupational Safety and Health

NJ: New Jersey

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PA: Pennsylvania

PEL: Permissible exposure limit

RCRA: Resource Conservation and Recovery Act

RI: Rhode Island



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RTECS: Registry of Toxic Effects of Chemical Substances SARA: Superfund Amendments and Reauthorization Act

STEL: Short Term Exposure Limit

TDG: Canadian Transportation of Dangerous Goods Act & Regulations

TLV: Threshold Limit Values TWA: Time Weighted Average

WHMIS: Workplace Hazardous Materials Identification System

References : Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2015

(Chempendium, RTECs, HSDB, INCHEM).

European Chemicals Agency, Classification Legislation, 2015

Material Safety Data Sheet from manufacturer

OECD- The Global Portal to Information on Chemical Substances - eChemPortal,

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.

HMIS Rating

: *- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health: *3 Flammability: 0 Reactivity: 1

NFPA Rating 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

: Health: 3 Flammability: 0 Instability: 1 Special Hazards: None.

Prepared for:

Comet Chemical Company Ltd. 3463 Thomas Street Innisfill, ON L9S 3W4

Information (M-F 8:00-5:00): 705-436-5580

www.cometchemical.com

COMET CHEMICAL COMPANY LTD.

Prepared by:

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