

SAFETY DATA SHEET



1. Identification

Covestro LLC
formerly Bayer MaterialScience LLC
1 Covestro Circle
Pittsburgh, PA 15205
USA

TRANSPORTATION EMERGENCY

CALL CHEMTREC: (800) 424-9300
INTERNATIONAL: (703) 527-3887

NON-TRANSPORTATION

Emergency Phone: Call Chemtrec
Information Phone: (844) 646-0545

Product Name: LIQUID CAUSTIC SODA 50%
Material Number: 3504860
Use: Production of pulp and paper, soaps, detergents, textiles, alumina, and water treatment.

2. Hazards Identification

GHS Classification

Skin corrosion: Category 1A
Serious eye damage: Category 1
Corrosive to metals: Category 1

GHS Label Elements

Hazard pictograms:



Signal word: Danger

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

Precautionary statements:

Prevention:

Wash skin and face thoroughly after handling.
Wear permeation resistant protective gloves and clothing. Wear eye and face protection.
Keep only in original container.

Response:

Immediately call a doctor or emergency medical facility (i.e., 911).
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.

Material Name: LIQUID CAUSTIC SODA 50%

Material Number: 3504860

IF IN EYES: Rinse cautiously with water for several minutes..
 Remove contact lenses, if present and easy to do. Continue rinsing.
 IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
 Wash contaminated clothing before reuse.
 Absorb spillage to prevent material damage.
Storage:
 Store locked up.
 Store in corrosive resistant polypropylene container with a resistant liner.
Disposal:
 Dispose of contents and container in accordance with existing federal, state, and local environmental control laws.

3. Composition/Information on Ingredients

Hazardous Components

<u>Weight Percent</u>	<u>Components</u>	<u>CAS-No.</u>	<u>Classification</u>
50 - 70%	Sodium hydroxide	1310-73-2	Skin corrosion Category 1A. Serious eye damage Category 1. Corrosive to metals Category 1.

The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

4. First Aid Measures

Most Important Symptom(s)/Effect(s)

Acute: Causes serious eye damage with symptoms of eye burns, corneal injury, and possible blindness., Causes severe skin burns with symptoms of necrosis and possible scarring., Corrosive to the digestive tract with symptoms of burning and ulceration.

Eye Contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Call a physician immediately.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediately remove contaminated clothing and shoes. Call a physician immediately. Wash clothing and shoes before reuse.

Inhalation

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration using a pocket mask type resuscitator. Call a physician immediately.

Ingestion

Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention. Never give anything by mouth to an unconscious person.

5. Firefighting Measures

Suitable Extinguishing Media: Carbon dioxide (CO₂), Foam, Dry chemical

Unsuitable Extinguishing Media No Data Available

Fire Fighting Procedure

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.

Hazardous Decomposition Products

By Fire and Thermal Decomposition: Sodium oxides, other potentially toxic fumes
Other decomposition products

Unusual Fire/Explosion Hazards

Water runoff from fire fighting may be corrosive. Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. Contact with metals liberates flammable gas.

6. Accidental Release Measures

Spill and Leak Procedures

Cleanup personnel must use appropriate personal protective equipment. Cover spill with inert material (e. g., dry sand or earth) and collect for proper disposal. Do not allow spilled material or wash water to enter sewers, surface waters, or groundwater systems. Decontaminant/Neutralizer: Dilute hydrochloric acid solution. Wash spill area with water. Collect wash water for approved disposal.

7. Handling and Storage

Handling/Storage Precautions

Do not breathe vapours or spray mist. Do not get on skin or clothing. Do not get in eyes. Do not taste or swallow. Use only with adequate ventilation/personal protection. Wash thoroughly after handling. Keep container closed when not in use.

Storage Period:

Not Established

Storage Conditions

Material can be stored safely at ambient temperatures. Do not expose to direct sunlight. Protect from freezing. This product is corrosive to metal(s). Product can react with water.

Substances to Avoid

Combustible material, Acids, Halogenated compounds, Halogens, Metals, Oxidizing agents, Peroxides, Organic nitro compounds

8. Exposure Controls/Personal Protection

Sodium hydroxide (1310-73-2)

US. ACGIH Threshold Limit Values

Ceiling Limit Value: 2 mg/m³

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Permissible exposure limit: 2 mg/m³

Any component which is listed in section 3 and is not listed in this section does not have a known ACGIH TLV, OSHA PEL or supplier recommended occupational exposure limit.

Industrial Hygiene/Ventilation Measures

General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines.

Respiratory Protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Hand Protection

Permeation resistant gloves.

Eye Protection

Chemical resistant goggles must be worn., Chemical safety goggles or safety glasses with side-shields.

Skin Protection

Permeation resistant clothing and foot protection.

Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

9. Physical and Chemical Properties

State of Matter:	liquid
Color:	Clear, Opaque
Odor:	Odorless
Odor Threshold:	No Data Available
pH:	14
Freezing Point:	12 °C (53.6 °F)
Boiling Point:	140 °C (284 °F)
Flash Point:	No Data Available
Evaporation Rate:	No Data Available
Lower explosion limit:	No Data Available
Upper Explosion Limit:	No Data Available
Vapor Pressure:	13 mmHg @ 15.56 °C (60 °F)
Vapor Density:	No Data Available
Density:	No Data Available
Relative Vapor Density:	No Data Available
Specific Gravity:	1.53 @ 15.56 °C (60 °F)
Solubility in Water:	Soluble
Partition Coefficient: n-octanol/water:	No Data Available
Auto-ignition Temperature:	No Data Available
Decomposition Temperature:	No Data Available
Dynamic Viscosity:	No Data Available
Kinematic Viscosity:	No Data Available

10. Stability and Reactivity

Hazardous Reactions

Hazardous polymerisation does not occur.

Stability

Stable

Materials to Avoid

Combustible material, Acids, Halogenated compounds, Halogens, Metals, Oxidizing agents, Peroxides, Organic nitro compounds

Conditions to Avoid

Avoid contact with moisture / water. Do not expose to direct sunlight. Protect from freezing.

Hazardous Decomposition Products

By Fire and Thermal Decomposition: Sodium oxides, other potentially toxic fumes
Other decomposition products

11. Toxicological Information

Likely Routes of Exposure:

Skin Contact
Eye Contact
Ingestion
Inhalation

Health Effects and Symptoms

Acute: Causes serious eye damage with symptoms of eye burns, corneal injury, and possible blindness., Causes severe skin burns with symptoms of necrosis and possible scarring., Corrosive to the digestive tract with symptoms of burning and ulceration.

Chronic: Not expected to cause adverse chronic health effects.

Toxicity Data for: LIQUID CAUSTIC SODA 50%

No data available for this product.

Toxicity Data for Sodium hydroxide

Acute Oral Toxicity

LD50: 104 - 300 mg/kg (rat)

Acute Dermal Toxicity

LD50: 1350 mg/kg (rabbit)

Skin Irritation

Human, Corrosive

Eye Irritation

Human, severe irritant

Sensitization

Skin sensitisation:: negative (Human experience, Patch Test)

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium)
Positive and negative results were seen in various in vitro studies.

Genetic Toxicity in Vivo:
Micronucleus Assay: (Mouse, Male/Female, intraperitoneal)
negative

Carcinogenicity:

No carcinogenic substances as defined by IARC, NTP and/or OSHA

12. Ecological Information

Ecological Data for: LIQUID CAUSTIC SODA 50%

No data available for this product.

Ecological Data for Sodium hydroxide

Acute and Prolonged Toxicity to Fish

LC50: 45.4 mg/L (50 %, pH 8) (Rainbow (Donaldson) Trout (Oncorhynchus mykiss), 96 h)

Acute Toxicity to Aquatic Invertebrates

LC100: 156 mg/L (pH 9.1 - 9.5) (Water flea (Daphnia magna))

Toxicity to Aquatic Plants

The freshwater algae are destroyed at a pH of >8.5.

13. Disposal Considerations

Waste Disposal Method

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions

Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Label precautions also apply to this container when empty.

14. Transportation Information

Land transport (DOT)

Proper Shipping Name:	Sodium hydroxide solution
Hazard Class or Division:	8
UN/NA Number:	UN1824
Packaging Group:	II
Hazard Label(s):	Corrosive

RSPA/DOT Regulated Components:

Sodium hydroxide

Reportable Quantity: 907 kg (2000 lb)

Sea transport (IMDG)

Proper Shipping Name:	SODIUM HYDROXIDE SOLUTION
Hazard Class or Division:	8

Material Name: LIQUID CAUSTIC SODA 50%

Material Number: 3504860

UN number: UN1824
Packaging Group: II
Hazard Label(s): CORROSIVE

Air transport (ICAO/IATA)

Proper Shipping Name: Sodium hydroxide solution
Hazard Class or Division: 8
UN number: UN1824
Packaging Group: II
Hazard Label(s): CORROSIVE

15. Regulatory Information

United States Federal Regulations

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

|| No substances are subject to TSCA 12(b) export notification requirements.

US. EPA CERCLA Hazardous Substances (40 CFR 302) Components:

Sodium hydroxide Reportable quantity: 1000 lbs

SARA Section 311/312 Hazard Categories:

Acute Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) Components:

None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III

Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required Components:

None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):

Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste. In its purchased form, this product meets the criteria of corrosivity under 40 CFR 261.22(a), and, when discarded in that form, should be managed as a hazardous waste.

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
>=1%	Water	7732-18-5
45 - 55%	Sodium hydroxide	1310-73-2

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists:

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
45 - 55%	Sodium hydroxide	1310-73-2

California Prop. 65:

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

Based on information provided by our suppliers, this product is considered "DRC Conflict Free" as defined by the SEC Conflict Minerals Final Rule (Release No. 34-67716; File No. S7-40-10; Date: 2012-08-22).

16. Other Information

The method of hazard communication for Covestro LLC is comprised of Product Labels and Safety Data Sheets.

Contact:	Product Safety Department
Telephone:	(412) 413-2835
SDS Number:	112000028721
Version Date:	08/28/2015
SDS Version:	2.0

This information is furnished without warranty, express or implied. This information is believed to be accurate to the best knowledge of Covestro LLC. The information in this SDS relates only to the specific material designated herein. Covestro LLC assumes no legal responsibility for use of or reliance upon the information in this SDS.

|| Changes since the last version are highlighted in the margin. This version replaces all previous versions.