

SAFETY DATA SHEET

Revision Date 06/6/2022

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers:

Product Name Sodium hydroxide, 5.0N Solution
Cat Number S131073-50N

1.2 Identified uses: Laboratory chemicals, synthesis of substances & food, drug, pesticide or biocidal product

1.3 Details of the supplier of the safety data sheet:

Company: UFC Biotechnology Inc.
 435 Creekside Drive, Suite 5
 Amherst NY 14228
 UNITED STATES

Telephone: +1-716-777-3776
Fax: +1-716-240-2713

1.4 Details of the supplier of the safety data sheet:

Emergency Phone #: +1-800-535-5053 INFOTRAC (USA) – 24h, 7 Days/week
 +1-352-323-3500 INFOTRAC (International) – 24h, 7 Days/week

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Health Hazards

Skin corrosion/irritation	Category 1 A
Serious eye damage/eye irritation	Category 1
Target organs – respiratory system	Category 3

Environmental Hazards

Corrosive to metals	Category 1
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2.2 GHS label elements, including precautionary statements

Hazard Symbol:



Signal Word:

Danger

Hazard Statement(s):

Corrosive to metals
Causes severe skin burns and eye damage
May cause respiratory irritation

Precautionary Statements:

Prevention:

Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands, and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area

Skin:

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

Eyes:

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

Ingestion:

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

- Spills:** Absorb spillage to prevent material damage.
- Storage:** Store in a corrosive resistant polypropylene container with a resistant liner.
- Disposal:** Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards which do not result in classification

None

Section 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration (% weight)
Water	Water, aqua	7732-18-5		75-80%
Sodium hydroxide	Caustic soda	1310-73-2		20-25%

Section 4: First-aid measures

4.1 Description of necessary first-aid measures

- If inhaled** If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use the mouth-to-mouth method if the victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.
- In case of skin contact** Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.
- In case of eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
- If swallowed** Do not induce vomiting, instead rinse the person's mouth with water. Seek medical attention immediately; may be fatal if swallowed.
- If ingested** Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.
- Most important symptoms and effects** Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.

Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Not combustible. CO₂, dry chemical, dry sand, alcohol-resistant foam.

5.2 Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

5.3 Special protective actions for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from an upwind of spill/leak.

6.2 Environmental precautions

Avoid release of materials to the environment and stop running off to waterways/sewers.

6.3 Methods and materials for containment and cleaning up

Take up a liquid spill with absorbent material. Then dispose of materials at an authorized site.

Section 7: Handling and storage

7.1 Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

7.2 Conditions for safe storage, including any incompatibilities

Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in a dry, cool and well-ventilated place. Keep the container tightly closed. Keep only in the original container. Incompatible Materials. Metals. Acids. Acid chlorides. Acid anhydrides. Organic materials. Aluminum. copper.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

Chemical Name	OSHA – PEL (mg/m ³)	NIOSH – REL (mg/m ³)	ACGIH – TLV (mg/m ³)
Sodium Hydroxide	2	2	2

8.2 Appropriate engineering controls

Measures Ensure that eyewash stations and safety showers are close to the workstation location.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body protection Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection Respiratory protection is not required. in case of formation of vapours/aerosols: Short term: filter apparatus, combination filter A-P2.

Control of environmental exposure No special environmental precautions required.

Section 9: Physical and chemical properties

Physical State	Liquid
Appearance	Clear Colorless
Odor	Odorless No information available
Odor Threshold	No information available
pH	13
Melting Point/Range	No data available
Boiling Point/Range	100 °C / 212 °F
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid, gas)	Not applicable

Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	23 hPa @ 20 °C
Vapor Density	No information available
Specific Gravity	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	NaOH
Molecular Weight	40.00

Section 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

May react with carbon dioxide to form sodium carbonate

10.5 Incompatible materials

Acids, metals, organic compounds.

10.6 Hazardous decomposition products

Sodium oxide and may react with metal to form flammable and explosive gas (hydrogen).

Section 11: Toxicological information

11.1 Hazardous decomposition products

Acute toxicity

Product Information	No acute toxicity information is available for this product
Oral LD50	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Dermal LD50	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Vapor LC50	Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Skin corrosion/irritation

Mixture causes severe burns.

Serious eye damage/irritation

Serious irritant effect

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: 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.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity Reproductive toxicity

No data available

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Aspiration hazard

No data available

Additional information

No data available

11.2 Hazardous decomposition products

Burning sensation, cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice

Components sodium hydroxide

Acute toxicity

Oral: No data available

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Inhalation: No data available

Inhalation: Corrosive to the respiratory system.

Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns.

Remarks: (Regulation (EC) No 1272/2008, Annex VI) Serious eye damage/eye irritation Eyes - Rabbit Result: Causes serious eye damage. (OECD Test Guideline 405) Remarks: (Regulation (EC) No 1272/2008, Annex VI) Causes serious eye damage.

Respiratory or skin sensitization

Patch test: - In vitro study

Result: negative Remarks: (ECHA)

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.

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

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Acute inhalation toxicity - burns of mucous membranes, Cough, Shortness of breath, Possible damages: damage to the respiratory tract

Section 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 – 45.4 mg/L, 96h static
Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assesment

No data available

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

Toxicity to fish LC50 - *Gambusia affinis* (Mosquito fish) - 125 mg/l - 96 h Remarks: (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates EC50 - *Ceriodaphnia* (water flea) - 40.4 mg/l - 48 h Remarks: (ECHA)

Toxicity to bacteria EC50 - *Photobacterium phosphoreum* - 22 mg/l - 15 min Remarks: (External MSDS)

Section 13: Disposal considerations

13.1 Disposal methods

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Contaminated packaging

Dispose of an unused product.

Section 14: Transport information

DOT (US)

UN Number: UN1824

Shipping name: Sodium Hydroxide Solution

Hazard Class: 8

Packing group: II

Exceptions: Quantity equal to or less than 1 liter.

IMDG

UN Number: UN1824

Shipping name: Sodium Hydroxide Solution

Hazard Class: 8

Packing group: II

IATA

UN Number: UN1824

Shipping name: Sodium Hydroxide Solution

Hazard Class: 8

Packing group: II

Section 15: Regulatory information

Adhere to all Federal, State and local Regulations

Section 16: Other information

References: Not available.

Other Special Considerations: Not available.

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