


Doc#:	50295	Page#:	1 of 14	
Rev#:	2	Date	16-Aug-2022	

## SAFETY DATA SHEET

### Sodium Hydroxide Solution (0.1 N)

#### 1. Product Identification

##### 1.1. Product Identifiers

- 1.1.1. Name:  
Sodium Hydroxide Solution (0.1 N)
- 1.1.2. Part Number:  
2201
- 1.1.3. CAS Number:  
1310-73-2

##### 1.2. Relevant Identified Uses and Uses Advised Against

- 1.2.1. Identified Uses:  
Laboratory chemical

##### 1.3. Details of Supplier of Safety Data Sheet

- 1.3.1. Company:  
ARTMS Inc  
8575 Commerce Court  
Burnaby, BC, V5A 4N5  
Canada
- 1.3.2. Phone Number:  
+1 (604) 228 4016

##### 1.4. Emergency Contact Phone Number

- 1.4.1. Emergency Phone Number:  
1-888-CANUTEC (226-8832) (North American use) and/or 1-613-996-6666 (International use)


#### 2. Hazard Identification

##### 2.1. Classification of Substance/Mixture

- Corrosive to metals (Category 1), H290  
Skin corrosion (Category 1A), H314  
Eye irritation (Category 2A), H319  
Short-term (acute) aquatic hazard (Category 3), H402

##### 2.2. GHS Label Elements, Including Primary Statements

- 2.2.1. Pictogram:

Doc#:	50295	Page#:	2 of 14	
Rev#:	2	Date	16-Aug-2022	



2.2.2. Signal Word:

Danger

2.2.3. Hazard statement(s):

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H402 Harmful to aquatic life.

2.2.4. Precautionary statement(s):

P234 Keep only in original packaging.

P260 Do not breathe dust or mist.

P264 Wash skin thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

P390 Absorb spillage to prevent material damage.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

**2.3. Hazards Not Otherwise Classified (HNOC) or covered by GHS**

None

**3. Composition/Information on Ingredients**

**3.1. Substances/Mixtures**

3.1.1. Sodium Hydroxide:

3.1.1.1. Formula: NaOH

Synonyms: Caustic Soda, Soda Lye

3.1.1.2. Molecular Weight 40.00 g/mol

Substance	Composition (%)	CAS Number	EC Number	Classification
Water	99.6 %	7732-18-5	231-791-2	N/A
Sodium Hydroxide	0.40 %	1310-73-2	215-185-5	Met. Corr. 1 Skin Corr. 1A; Eye Irrit. 2A Aquatic  Acute 3; H290, H314, H319, H402  Concentration limits: 0.5 - < 2 % Skin Irrit. 2, H315; 0.5 - < 2 %: Eye Irrit. 2, H319; >= 5 %: Skin Corr. 1A, H314; 2 - <

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#### 4. First Aid Measures

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##### 4.1. Description of First Aid Measures

4.1.1. General advice:

Consult a physician. Show this safety data sheet to the doctor in attendance.

4.1.2. If inhaled:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

4.1.3. In case of skin contact:

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

4.1.4. In case of eye contact:

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

4.1.5. If swallowed:


Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

##### 4.2. Most Important Symptoms and Effects (Both Acute and Delayed)

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

##### 4.3. Indication of and Immediate Medical Attention and Special Treatment Needed

No data available.

Doc#:	50295	Page#:	4 of 14	
Rev#:	2	Date	16-Aug-2022	

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## 5. Fire Fighting Measures

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### 5.1. Extinguishing Media

#### 5.1.1. Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

### 5.2. Special Hazards Arising from the Substance/Mixture

Sodium oxides

### 5.3. Advice for Firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4. Further Information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## 6. Accidental Release Measures

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### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### 6.2. Environmental Precautions

Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3. Methods and Materials for Containment and Cleaning

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### 6.4. Reference to Data Sheet Sections

For disposal see section 13.

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## 7. Handling and Storage

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### 7.1. Precautions for Safe Handling


Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed and avoid inhalation. For precautions see section 2.2.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials.

### 7.3. Specific End Use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

Doc#:	50295	Page#:	5 of 14	
Rev#:	2	Date	16-Aug-2022	

## 8. Exposure Controls/Personal Protection

### 8.1. Control Parameters

Component	CAS Number	Value	Control Parameters	Basis
Sodium hydroxide	1310-73-2	C	2 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
Remarks	A substance which may not be recirculated in accordance with section 108			
		(c)	2 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		C	2 mg/m <sup>3</sup>	Canada. British Columbia OEL
		C	2 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)

### 8.2. Exposure Controls

#### 8.2.1. Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.2.2. Personal Protective Equipment:

8.2.2.1. Eye/face protection:

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

8.2.2.2. Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching 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.

Full contact:

- Material: Nitrile rubber
- Minimum layer thickness: 0.11 mm
- Break through time: > 480 min
- Material tested: KCL 741 Dermatril® L

Splash contact:

- Material: Nitrile rubber
- Minimum layer thickness: 0.11 mm
- Break through time: > 480 min
- Material tested: KCL 741 Dermatril® L

8.2.2.3. Body protection:

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

8.2.2.4. Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

8.2.2.5. Control of environmental exposure:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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**9. Physical and Chemical Properties**

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**9.1. Information on Basic Physical and Chemical Properties**

Property	Data/Value
Appearance	Liquid; Colorless
Odor	Odorless

Odor Threshold	No data available
pH	12.7
Melting/Freezing Point	No data available
Initial Boiling Point and Range	No data available
Flash Point	Not applicable
Evaporation Rate	No data available
Flammability	Not flammable
Upper/Lower Flammability/Explosive Limits	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Density	1.01 g/cm <sup>3</sup> at 25 °C (77 °F)
Water Solubility	Soluble
Partition Coefficient: n-octanol/water	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No data available
Oxidizing Properties	No data available

**9.2. Other Safety Information**

No other data available.

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**10. Stability and Reactivity**

**10.1. Reactivity**

See section 10.3


**10.2. Chemical Stability**

Stable under recommended storage.

**10.3. Possibility of Hazardous Reactions**

No data available



Doc#:	50295	Page#:	9 of 14	
Rev#:	2	Date	16-Aug-2022	

**10.4. Conditions to Avoid**

No data available

**10.5. Incompatible Materials**

Strong oxidizing agents, Strong acids, Organic materials, Metals.

**10.6. Hazardous Decomposition Properties**

Hazardous decomposition products formed under fire conditions. - Sodium oxides

Other decomposition products - No data available

In the event of fire: see section 5

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**11. Toxicology**

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**11.1. Information on Toxicological Effects**

11.1.1. Acute toxicity:

No data available.

11.1.1.1. Inhalation:


Corrosive to respiratory system. (Sodium Hydroxide)

11.1.1.2. Dermal:

No data available

11.1.2. Skin corrosion/irritation:

Possible damages: Irritation

Doc#:	50295	Page#:	10 of 14	
Rev#:	2	Date	16-Aug-2022	

11.1.3. Serious eye damage/eye irritation:

Possible damages: Irritation

11.1.4. Respiratory or skin sensitization:

No data available

11.1.5. Germ cell mutagenicity:

No data available

11.1.6. Carcinogenicity:

No data available

11.1.7. Reproductive toxicity:

No data available

11.1.8. Specific target organ toxicity – single exposure:

No data available

11.1.9. Specific target organ toxicity – repeated exposure:

No data available

11.1.10. Aspiration hazard:

No data available

11.1.11. Additional information:

Handle in accordance with good industrial hygiene and safety practice.

## **11.2. Components (Sodium Hydroxide)**

11.2.1. Acute toxicity:

No data available.

11.2.1.1. Inhalation:

Corrosive to respiratory system.

11.2.1.2. Dermal:


No data available

11.2.2. Skin corrosion/irritation:

Skin - Rabbit

Result: Severe skin irritation - 24 h

Remarks: (RTECS)

Doc#:	50295	Page#:	11 of 14	
Rev#:	2	Date	16-Aug-2022	

11.2.3. Serious eye damage/eye irritation:

Eyes - Rabbit

Result: Causes serious eye irritation.

(OECD Test Guideline 405)

Causes serious eye damage.

11.2.4. Respiratory or skin sensitization:

Patch test: - Human

Result: negative

Remarks: (ECHA)

11.2.5. Germ cell mutagenicity:

No data available

11.2.6. 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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

11.2.7. Reproductive toxicity:

No data available

11.2.8. Specific target organ toxicity – single exposure:

No data available

Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.


Acute inhalation toxicity - burns of mucous membranes, Cough, Shortness of breath, Possible damages: damage of respiratory tract

11.2.9. Specific target organ toxicity – repeated exposure:

No data available

11.2.10. Aspiration hazard:

No data available

Doc#:	50295	Page#:	12 of 14	
Rev#:	2	Date	16-Aug-2022	

11.2.11. Additional information:

RTECS: WB4900000

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.

**12. Ecological Information**

**12.1. Toxicity (Sodium Hydroxide)**

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)

**12.2. Persistence and Degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3. Bio-accumulative Potential**


No data available

**12.4. Mobility in Soil**

No data available

**12.5. Results of PBT and vPvB Assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Doc#:	50295	Page#:	13 of 14	
Rev#:	2	Date	16-Aug-2022	

**12.6. Other Adverse Effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Harmful to aquatic life.  
Harmful effect due to pH shift.  
Will form corrosive mixtures with water even if diluted.  
Neutralization possible in wastewater treatment plants.  
Discharge into the environment must be avoided.

**13. Disposal Considerations**

**13.1. Waste Treatment Methods**

13.1.1. Product:

Waste material must be disposed of in accordance with the national and local regulations. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

13.1.2. Contaminated Packaging:

Dispose of as unused product.

**14. Transport Information**

**14.1. DOT (US)\**

UN number: 1824; Class: 8; Packing group: III  
Proper shipping name: SODIUM HYDROXIDE SOLUTION  
Labels: 8  
ERG Code: 154  
Marine pollutant: no

**14.2. IMDG**


UN number: 1824; Class: 8; Packing group: III EMS-No: F-A, S-B  
Proper shipping name: SODIUM HYDROXIDE SOLUTION

**14.3. IATA**

UN number: 1824; Class: 8; Packing group: III  
Proper shipping name: Sodium hydroxide solution

**15. Regulatory Information**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

Doc#:	50295	Page#:	14 of 14	
Rev#:	2	Date	16-Aug-2022	

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**16. Other Information**

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**16.1. Further Information**

No further data available.

**Disclaimer:**

**The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product regarding appropriate safety precautions. It does not represent any guarantee of the properties of the product. ARTMS Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.**

**END OF SDS**