

SAFETY DATA SHEETS

This SDS packet was issued with item:

070909721

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

070890434 070890459 070890467 070890475 070890483 070890491 070890509 070890517 070890525 070890533

070890541 078586662 078587258

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial Preparation Date: 06.11.2010

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Revision date: 05.01.2024

Patterson® Ultrasonic Cleaning Solutions - Temporary Cement Remover

SECTION 1: Identification

Product Identifier

Product Name: Patterson® Ultrasonic Cleaning Solutions - Temporary Cement Remover

Synonyms: Sodium Hydroxide Solution

Product code: 070909721

Recommended Use of the Product and Restriction on Use

Relevant Identified Uses: Dental instruments temporary cement cleaner.

Uses Advised Against: Any use other than recommended above.

Reasons Why Uses Advised Against: Not determined or not applicable.

Manufacturer or Supplier Details

Manufacturer:

United States

Patterson Companies, Inc.
1031 Mendota Heights Road
St. Paul, MN 55120
1-800-328-5536
www.pattersoncompanies.com

Emergency Telephone Number:

United States

CHEMTREC

Within USA and Canada: 1-800-424-9300 (24 hours)

SECTION 2: Hazard(s) Identification

GHS Classification:

Skin corrosion, category 1A

Serious eye damage, category 1

Specific target organ toxicity - single exposure, category 1

Label elements

Hazard Pictograms:



Signal Word: Danger

Hazard statements:

H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

H370 Causes damage to respiratory tract via inhalation

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Precautionary Statements:

P260 Do not breathe dust, fumes, gas, mist, vapors or spray
P264 Wash any exposed skin thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P280 Wear protective gloves, protective clothing, eye protection and face protection
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P310 Immediately call a POISON CENTER or doctor
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P307+P311 IF exposed: Call a POISON CENTER or doctor/physician
P321 Specific treatment (see supplemental first aid instructions on this label)
P363 Wash contaminated clothing before reuse
P405 Store locked up
P501 Dispose of contents and container in accordance with federal, state and local regulations

Hazards Not Otherwise Classified: None

SECTION 3: Composition/Information on Ingredients

Identification	Name	Weight %
CAS Number: 1310-73-2	Sodium hydroxide	5-10

Additional Information:

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR §1910.1200).

SECTION 4: First Aid Measures

Description of First Aid Measures

General Notes:

Show this Safety Data Sheet to the doctor in attendance.

After Inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

After Skin Contact:

Treatment is urgent. Seek emergency medical treatment. Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse.

After Eye Contact:

Immediately rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. Seek immediate medical attention, preferably from an ophthalmologist.

After Swallowing:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse

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mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. Seek immediate medical attention.

Most Important Symptoms and Effects, Both Acute and Delayed

Acute Symptoms and Effects:

Exposure to skin may result in redness, pain, burning, inflammation and tissue damage. Exposure to eyes may result in irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and loss of vision. Exposure via inhalation may result in cough, sore throat, burning sensation and shortness of breath. Exposure via ingestion may result in burns of the mouth and throat, abdominal pain, burning sensation in the throat and chest, nausea, vomiting, shock or collapse.

Causes damage to respiratory tract via inhalation.

Delayed Symptoms and Effects:

Effects are dependent on exposure (dose, concentration, contact time).

Immediate Medical Attention and Special Treatment

Specific Treatment:

In case of eye contact, seek prompt medical attention while rinsing is continued.

In case of skin contact, seek prompt medical attention while rinsing is continued.

In case of ingestion, seek prompt medical attention.

If exhibiting symptoms of exposure, seek prompt medical attention.

Notes for the Doctor:

Treat symptomatically.

SECTION 5: Firefighting Measures

Extinguishing Media

Suitable Extinguishing Media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable Extinguishing Media:

Do not use water jet.

Specific Hazards During Fire-Fighting:

Contact with moisture or water may generate sufficient heat to ignite combustible materials. May react with metals to produce flammable hydrogen gas. Thermal decomposition may produce irritating and toxic gases including sodium oxides.

Special Protective Equipment for Firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts.

Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers.

Avoid unnecessary run-off of extinguishing media which may cause pollution.

SECTION 6: Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Prevent contact with skin, eyes and clothing. Do not breathe mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

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Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

Methods and Material for Containment and Cleaning Up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Prevent from spreading by covering, diking or other means. Contain and collect spillage with an inert, absorbent material such as soil or sand. Place recovered material in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Reference to Other Sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and Storage

Precautions for Safe Handling:

Use appropriate personal protective equipment (see Section 8). Prevent skin contact. Do not get in eyes. Use only with adequate ventilation. Use in a closed system. Do not add water to the corrosive product. If it is necessary to mix a corrosive product with water, do so slowly adding the corrosive to cold water, in small amounts, and stir frequently. Do not breathe mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use. Keep only in original packaging.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight and away from exit paths. Store in a corrosion-resistant container with a resistant inner liner. Inspect containers and storage area regularly for signs of leak and damage. Store containers at a convenient height for handling, below eye level if possible. High shelving increases the risk of dropping containers, personal injury and exposure. Ensure that appropriate fire fighting and spill-clean up equipment is readily available. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Store separately. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

SECTION 8: Exposure Controls/Personal Protection

Only those substances with limit values have been included below.

Occupational Exposure Limit Values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³
OSHA	Sodium hydroxide	1310-73-2	8-Hour TWA-PEL: 2 mg/m ³
NIOSH	Sodium hydroxide	1310-73-2	IDLH: 10 mg/m ³
	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³
United States(California)	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³

Biological Limit Values:

No biological exposure limits noted for the ingredient(s).

Information on Monitoring Procedures:

Not determined or not applicable.

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Appropriate Engineering Controls:

Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Personal Protection Equipment

Eye and Face Protection:

Use safety glasses with side shields or goggles. Consider the use of a face shield for splash protection. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and Body Protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Full body protection should be worn. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

General Hygienic Measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

SECTION 9: Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Appearance	Transparent, yellow liquid
Odor	Odorless
Odor threshold	Not determined or not available.
pH	13.3 - 13.9
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	216°F (102°C)
Flash point (closed cup)	210 °F (99°C)
Evaporation rate	Not determined or not available.
Flammability (solid, gas)	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	Not determined or not available.

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Vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	1.12 (Ref: water = 1)
Solubilities	Not determined or not available.
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Dynamic viscosity	Not determined or not available.
Kinematic viscosity	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other Information

Percent Volatile	90%
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SECTION 10: Stability and Reactivity

Reactivity:

The solution in water is a strong base. It reacts violently with acid and is corrosive to metals such as aluminium, tin, lead and zinc. This produces combustible/explosive hydrogen gas. Reacts with ammonium salts to produce ammonia and generate a fire hazard. Contact with moisture or water may generate sufficient heat to ignite combustible materials. Risk of fire and explosion on contact with incompatible substances.

Chemical Stability:

Stable under recommended handling and storage conditions.

Possibility of Hazardous Reactions:

The solution in water is a strong base. It reacts violently with acid and is corrosive to metals such as aluminium, tin, lead and zinc. This produces combustible/explosive hydrogen gas. Reacts with ammonium salts to produce ammonia and generate a fire hazard. Contact with moisture or water may generate sufficient heat to ignite combustible materials. Risk of fire and explosion on contact with incompatible substances.

Conditions to Avoid:

Avoid generation of aerosols and mists, extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Incompatible Materials:

Acids; Water/Moisture; Metals

Hazardous Decomposition Products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological Information

Acute Toxicity

Assessment: Based on available data, the classification criteria are not met.

Product Data: No data available.

Substance Data:

Name	Route	Result
Sodium hydroxide	oral	LD50 Rat: 325 mg/kg
	dermal	LD50 Rabbit: 1350 mg/kg

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Skin Corrosion/Irritation

Assessment:

Causes severe skin burns and eye damage.

Product Data:

No data available.

Substance Data:

Name	Result
Sodium hydroxide	Causes severe skin burns.

Serious Eye Damage/Irritation

Assessment:

Causes serious eye damage.

Product Data:

No data available.

Substance Data:

Name	Result
Sodium hydroxide	Causes serious eye damage.

Respiratory or Skin Sensitization

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product Data: No data available.

Substance Data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

OSHA Carcinogens: Not applicable

Germ Cell Mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data: No data available.

Reproductive Toxicity

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data: No data available.

Specific Target Organ Toxicity (Single Exposure)

Assessment:

Causes damage to organs.

Product Data:

No data available.

Substance Data: No data available.

Specific Target Organ Toxicity (Repeated Exposure)

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Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data: No data available.

Information on Likely Routes of Exposure:

Inhalation; Ingestion; Skin contact; Eye contact

Symptoms Related to the Physical, Chemical, and Toxicological Characteristics:

Refer to Section 4 of this SDS.

Other Information:

No data available.

SECTION 12: Ecological Information

Acute (Short-Term) Toxicity

Assessment: Based on available data, the classification criteria are not met.

Product Data: No data available.

Substance Data:

Name	Result
Sodium hydroxide	Aquatic Invertebrates EC50 Ceriodaphnia sp.: 40.4 mg/L (48 hr [immobilization])
	Fish LC50 Fish: 35 - 189 mg/L (96 hr)

Chronic (Long-Term) Toxicity

Assessment: Based on available data, the classification criteria are not met.

Product Data: No data available.

Substance Data: No data available.

Persistence and Degradability

Product Data: No data available.

Substance Data:

Name	Result
Sodium hydroxide	Persistence assessment based on biodegradability is not relevant for inorganic compounds such as this substance.

Bioaccumulative Potential

Product Data: No data available.

Substance Data:

Name	Result
Sodium hydroxide	Bioaccumulation assessment using a classic BCF assessment is not considered relevant for inorganic compounds such as this substance.

Mobility in Soil

Product Data: No data available.

Substance Data:

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Name	Result
Sodium hydroxide	Mobility in soil assessment based on KOC/Kd values are not relevant for inorganic compounds such as this substance.

Results of PBT and vPvB assessment

Product Data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance Data:

PBT assessment:

Sodium hydroxide	PBT assessment does not apply to inorganic compounds such as this substance.
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vPvB assessment:

Sodium hydroxide	vPvB assessment does not apply to inorganic compounds such as this substance.
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Other Adverse Effects: No data available.

SECTION 13: Disposal Considerations

Disposal Methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory agencies. Dispose of in accordance with all applicable local, regional, state and federal regulations.

Contaminated packages:

Not determined or not applicable.

SECTION 14: Transport Information

United States Transportation of Dangerous Goods (49 CFR DOT)

UN Number	1824
UN Proper Shipping Name	Sodium hydroxide solution
UN Transport Hazard Class(es)	8 
Packing Group	II
Environmental Hazards	None
Special Precautions for User	None
Reportable Quantity	10,000 lbs.
Passenger Air/Rail	1 L
Cargo Aircraft Only	30 L
Stowage Category	A

International Maritime Dangerous Goods (IMDG)

UN Number	1824
UN Proper Shipping Name	Sodium hydroxide solution
UN Transport Hazard Class(es)	8 

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Packing Group	II
Environmental Hazards	None
Special Precautions for User	None
EmS Number	F-A, S-B
Stowage Category	A
Excepted Quantities	E2
Limited Quantity	1 L

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN Number	1824
UN Proper Shipping Name	Sodium hydroxide solution
UN Transport Hazard Class(es)	8 
Packing Group	II
Environmental Hazards	None
Special Precautions for User	None
ERG Code	8L
Excepted Quantities	E2
Passenger and Cargo	1 L
Cargo Aircraft Only	30 L
Limited Quantity	0.5 L

SECTION 15: Regulatory Information

United States Regulations

Inventory Listing (TSCA): All ingredients are listed-active or exempt.

Significant New Use Rule (TSCA Section 5): None of the ingredients are listed.

Export Notification under TSCA Section 12(b): None of the ingredients are listed.

SARA Section 302 Extremely Hazardous Substances: None of the ingredients are listed.

SARA Section 313 Toxic Chemicals: None of the ingredients are listed.

CERCLA:

1310-73-2	Sodium hydroxide	Listed	1000 lb
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RCRA: None of the ingredients are listed.

Section 112(r) of the Clean Air Act (CAA): None of the ingredients are listed.

Massachusetts Right to Know:

1310-73-2	Sodium hydroxide	Listed
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New Jersey Right to Know:

1310-73-2	Sodium hydroxide	Listed
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New York Right to Know:

1310-73-2	Sodium hydroxide	Listed
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Pennsylvania Right to Know:

1310-73-2	Sodium hydroxide	Listed
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California Proposition 65: None of the ingredients are listed.

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Additional information: Not determined.

SECTION 16: Other Information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal 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, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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End of Safety Data Sheet

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SECTION 1: Identification

Product identifier

Product name: Patterson® Ultrasonic Cleaning Solutions - Temporary Cement Remover

Synonyms: Sodium Hydroxide Solution

Product code: 070909721

Recommended use of the product and restriction on use

Relevant identified uses: Dental instruments temporary cement cleaner.

Uses advised against: Any use other than recommended above.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

Canada

Patterson Dentaire Canada Inc.
1205 boul Henri-Bourassa West
Montreal, Quebec H3M 3E6
+1 514 745 4040

Emergency telephone number:

Canada

CHEMTREC

Within USA and Canada: 1-800-424-9300 (24 hours)

Outside USA and Canada: +1-703-527-3887 (24 hours)

SECTION 2: Hazard identification

GHS classification:

Skin corrosion, category 1A

Serious eye damage, category 1

Specific target organ toxicity - single exposure, category 1

Label elements

Hazard pictograms:



Signal Word: Danger

Hazard statements:

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- H314 Causes severe skin burns and eye damage
- H318 Causes serious eye damage
- H370 Causes damage to respiratory tract via inhalation

Precautionary statements:

- P260 Do not breathe dust/fume/gas/mist/vapours/spray
- P264 Wash face, hands and any exposed skin thoroughly after handling
- P270 Do not eat, drink or smoke when using this product
- P280 Wear protective gloves, protective clothing, eye protection and face protection
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- P310 Immediately call a POISON CENTER or doctor
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P308+P311 I IF exposed: Call a POISON CENTER or doctor/physician
- P321 Specific treatment (see supplemental information on the product label)
- P363 Wash contaminated clothing before reuse
- P405 Store locked up
- P501 Dispose of contents and container in accordance with local, regional, national, and international regulations

Hazards not otherwise classified:

None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 1310-73-2	Sodium hydroxide	5-10

Additional Information:

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with the Canadian Hazardous Products Regulation and WHMIS 2015.

SECTION 4: First-aid measures

Description of first-aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance.

After inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

After skin contact:

Treatment is urgent. Seek emergency medical treatment. Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse.

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After eye contact:

Immediately rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. Seek immediate medical attention, preferably from an ophthalmologist.

After ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. Seek immediate medical attention.

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Exposure to skin may result in redness, pain, burning, inflammation and tissue damage. Exposure to eyes may result in irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and loss of vision. Exposure via inhalation may result in cough, sore throat, burning sensation and shortness of breath. Exposure via ingestion may result in burns of the mouth and throat, abdominal pain, burning sensation in the throat and chest, nausea, vomiting, shock or collapse.

Causes damage to respiratory tract via inhalation.

Delayed symptoms and effects:

Effects are dependent on exposure (dose, concentration, contact time).

Immediate medical attention and special treatment

Specific treatment:

In case of eye contact, seek prompt medical attention while rinsing is continued.

In case of skin contact, seek prompt medical attention while rinsing is continued.

In case of ingestion, seek prompt medical attention.

If exhibiting symptoms of exposure, seek prompt medical attention.

Notes for the doctor:

Treat symptomatically.

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable extinguishing media:

Do not use water jet.

Specific hazards during fire-fighting:

Contact with moisture or water may generate sufficient heat to ignite combustible materials. May react with metals to produce flammable hydrogen gas. Thermal decomposition may produce irritating and toxic gases including sodium oxides.

Special protective equipment for firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers.

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Avoid unnecessary run-off of extinguishing media which may cause pollution.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Prevent contact with skin, eyes and clothing. Do not breathe mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

Methods and material for containment and cleaning up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Prevent from spreading by covering, diking or other means. Contain and collect spillage with an inert, absorbent material such as soil or sand. Place recovered material in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage

Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Prevent skin contact. Do not get in eyes. Use only with adequate ventilation. Use in a closed system. Do not add water to the corrosive product. If it is necessary to mix a corrosive product with water, do so slowly adding the corrosive to cold water, in small amounts, and stir frequently. Do not breathe mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use. Keep only in original packaging.

Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight and away from exit paths. Store in a corrosion-resistant container with a resistant inner liner. Inspect containers and storage area regularly for signs of leak and damage. Store containers at a convenient height for handling, below eye level if possible. High shelving increases the risk of dropping containers, personal injury and exposure. Ensure that appropriate fire fighting and spill-clean up equipment is readily available. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Store separately. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Alberta	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³

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Country (Legal Basis)	Substance	Identifier	Permissible concentration
Manitoba	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³
Ontario	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³
Quebec	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³
British Columbia	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³
Saskatchewan	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³
New Brunswick	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Personal protection equipment

Eye and face protection:

Use safety glasses with side shields or goggles. Consider the use of a face shield for splash protection. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and body protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Full body protection should be worn. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

General hygienic measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

SECTION 9: Physical and chemical properties

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Information on basic physical and chemical properties

Appearance (physical state, color):	Transparent, yellow liquid
Odor:	Odorless
Odor threshold:	Not determined or not available.
pH-value:	13.3 - 13.9
Melting/Freezing point:	Not determined or not available.
Boiling point/range:	216°F (102°C)
Flash point:	210 °F (99°C)
Evaporation rate:	Not determined or not available.
Flammability (solid, gaseous):	Not determined or not available.
Explosion limit upper:	Not determined or not available.
Explosion limit lower:	Not determined or not available.
Vapor pressure:	Not determined or not available.
Vapor density:	Not determined or not available.
Density:	Not determined or not available.
Relative density:	1.12 (Ref: water = 1)
Solubilities:	Not determined or not available.
Partition coefficient (n-octanol/water):	Not determined or not available.
Auto/Self-ignition temperature:	Not determined or not available.
Decomposition temperature:	Not determined or not available.
Dynamic viscosity:	Not determined or not available.
Kinematic viscosity:	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

Percent Volatile	90%
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SECTION 10: Stability and reactivity

Reactivity:

The solution in water is a strong base. It reacts violently with acid and is corrosive to metals such as aluminium, tin, lead and zinc. This produces combustible/explosive hydrogen gas. Reacts with ammonium salts to produce ammonia and generate a fire hazard. Contact with moisture or water may generate sufficient heat to ignite combustible materials. Risk of fire and explosion on contact with incompatible substances.

Chemical stability:

Stable under recommended handling and storage conditions.

Possibility of hazardous reactions:

The solution in water is a strong base. It reacts violently with acid and is corrosive to metals such as aluminium, tin, lead and zinc. This produces combustible/explosive hydrogen gas. Reacts with ammonium salts to produce ammonia and generate a fire hazard. Contact with moisture or water may generate sufficient heat to ignite combustible materials. Risk of fire and explosion on contact with incompatible substances.

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Conditions to avoid:

Avoid generation of aerosols and mists, extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Incompatible materials:

Acids; Water/Moisture; Metals

Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Route	Result
Sodium hydroxide	oral	LD50 Rat: 325 mg/kg
	dermal	LD50 Rabbit: 1350 mg/kg

Skin corrosion/irritation

Assessment:

Causes severe skin burns and eye damage.

Product data:

No data available.

Substance data:

Name	Result
Sodium hydroxide	Causes severe skin burns.

Serious eye damage/irritation

Assessment:

Causes serious eye damage.

Product data:

No data available.

Substance data:

Name	Result
Sodium hydroxide	Causes serious eye damage.

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

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National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment:

Causes damage to organs.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Information on likely routes of exposure:

Inhalation; Ingestion; Skin contact; Eye contact

Symptoms related to the physical, chemical and toxicological characteristics:

Refer to Section 4 of this SDS.

Other information:

No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Result
Sodium hydroxide	Fish LC50 Fish: 35 - 189 mg/L (96 hr)
	Aquatic Invertebrates EC50 Ceriodaphnia sp.: 40.4 mg/L (48 hr [immobilization])

Chronic (long-term) toxicity

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Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Persistence and degradability

Product data: No data available.

Substance data:

Name	Result
Sodium hydroxide	Persistence assessment based on biodegradability is not relevant for inorganic compounds such as this substance.

Bioaccumulative potential

Product data: No data available.

Substance data:

Name	Result
Sodium hydroxide	Bioaccumulation assessment using a classic BCF assessment is not considered relevant for inorganic compounds such as this substance.

Mobility in soil

Product data: No data available.

Substance data:

Name	Result
Sodium hydroxide	Mobility in soil assessment based on KOC/Kd values are not relevant for inorganic compounds such as this substance.

Results of PBT and vPvB assessment

Product data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance data:

PBT assessment:

Sodium hydroxide	PBT assessment does not apply to inorganic substances.
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vPvB assessment:

Sodium hydroxide	vPvB assessment does not apply to inorganic substances.
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Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory agencies. Dispose of in accordance with all applicable local, regional, state and federal regulations.

Contaminated packages:

Not determined or not applicable.

SECTION 14: Transport information

Canadian Transportation of Dangerous Goods (TDG)

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UN number	1824
UN proper shipping name	Sodium hydroxide solution
UN transport hazard class(es)	8
	
Packing group	II
Environmental hazards	None
Special precautions for user	None
Excepted quantities	E2
Passenger road and rail	1 L
Limited quantity	1 L

International Maritime Dangerous Goods (IMDG)

UN number	1824
UN proper shipping name	Sodium hydroxide solution
UN transport hazard class(es)	8
	
Packing group	II
Environmental hazards	None
Special precautions for user	None
EMS number	F-A, S-B
Stowage category	A
Excepted quantities	E2
Limited quantity	1 L

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	1824
UN proper shipping name	Sodium hydroxide solution
UN transport hazard class(es)	8
	
Packing group	II
Environmental hazards	None
Special precautions for user	None
ERG code	F-A, S-B
Excepted quantities	E2
Passenger and cargo	1 L
Cargo aircraft only	30 L
Limited quantity	0.5 L

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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Bulk Name	None
Ship type	None
Pollution category	None

SECTION 15: Regulatory information

Canada regulations

Domestic substances list (DSL): All ingredients are listed or exempt.

Non-domestic substances list (NDSL): None of the ingredients are listed.

Additional information: Not determined.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with the Canadian Hazardous Products Regulations and WHMIS 2015. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal 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, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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End of Safety Data Sheet