SAFETY DATA SHEET

1. Identification

Product identifier: Sodium Hydroxide, Pellets

Other means of identification

Product No.: 3115, 3717, 3718, 3720, 3722, 3723, 3728, 5045, 5565, 7001, 7680, 7690, 7708, 7740, 7760, 7772, BR20, BS20, 11128, 11680, 11708, 11722, 11728, 22228, 22728

Recommended use and restriction on use

Recommended use: For Laboratory, Research or Manufacturing Use.
Restrictions on use: Not determined.

Details of the supplier of the safety data sheet

Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200
Radnor, PA 19087

Telephone: Customer Service: 855-282-6867
Fax:
Contact Person: Product Information Compliance
E-mail: info@avantormaterials.com

Emergency telephone number:
CHEMTREC: 1-800-424-9300 within US and Canada (24 hrs/day, 7 days/week)

2. Hazard identification

Hazard Classification

Physical Hazards

Corrosive to metal	Category 1

Health Hazards

Skin Corrosion/Irritation	Category 1A
Serious Eye Damage/Eye Irritation	Category 1

Unknown toxicity - Health

Acute toxicity, inhalation, dust or mist	100 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	0 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:

Signal Word: Danger

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

Precautionary Statements

Prevention: Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Keep only in original packaging. Wash hands thoroughly after handling.

Response: 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/doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Wash contaminated clothing before reuse. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Absorb spillage to prevent material damage.

Storage: Store locked up. Store in a corrosion-resistant container with a resistant inner liner. Store in a well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	Content in percent (%)*
Sodium hydroxide		1310-73-2	95,0 - 100,0%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation:	Move to fresh air. Call a physician or poison control center immediately. Apply artificial respiration if victim is not breathing If breathing is difficult, give oxygen.
Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms:	Corrosive to skin and eyes.
Hazards:	None known.

Indication of immediate medical attention and special treatment needed

Treatment:	Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	The product reacts with water and will generate heat.

Specific hazards arising from the chemical: Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
Special 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.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Keep unauthorized personnel away. Ventilate closed spaces before entering them. Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and material for containment and cleaning up:	Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination. Neutralize spill area and washings with dilute acetic acid.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Do not get in eyes, on skin, on clothing. Do not eat, drink or smoke when using the product. Do not taste or swallow. Avoid breathing dust or vapor. Use personal protective equipment as required. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Do not store in metal containers. Keep container tightly closed. Store in a well-ventilated place. Store in a dry place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Sodium hydroxide	CEILING	2 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
Sodium hydroxide	CEILING	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Sodium hydroxide	CEILING	2 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
Sodium hydroxide	CEV	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Sodium hydroxide	Ceiling	2 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Sodium hydroxide	CEILING	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Sodium hydroxide	Ceiling	2 mg/m3	US. ACGIH Threshold Limit Values (2011)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection: Chemical resistant gloves

Other: Wear suitable protective clothing.

Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Air-purifying respirator with a high efficiency particulate filter.
Hygiene measures:	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:	Solid
Form:	Pellets
Color:	White
Odor:	Odorless
Odor threshold:	No data available.
pH:	12 (20 °C) (0.5% aqueous solution)
Melting point/freezing point:	323 °C
Initial boiling point and boiling range:	1.388 °C
Flash Point:	Not applicable
Evaporation rate:	No data available.
Flammability (solid, gas):	Noncombustible Solid
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Density:	2,13 g/ml (20 °C)
Relative density:	2,13 (25 °C)
Solubility(ies)	
Solubility in water:	1.110 g/l
Solubility (other):	ethanol: 138,9 g/l methanol: 240 g/l glycerol: Soluble
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

Other information

Molecular weight:	40 g/mol (NaOH)

10. Stability and reactivity

Reactivity:	Reacts violently with strong acids.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur. The substance is hygroscopic and will absorb water by contact with the moisture in the air.

Conditions to avoid:	Avoid dust formation. Heat. Moisture.
Incompatible Materials:	Oxidizing agents. Acids. Flammable liquid. Contact with metals may evolve flammable hydrogen gas.
Hazardous Decomposition Products:	Sodium oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	May cause damage to mucous membranes in nose, throat, lungs and bronchial system.
Skin Contact:	Causes severe skin burns.
Eye contact:	Causes serious eye damage.
Ingestion:	May cause burns of the gastrointestinal tract if swallowed.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: LD 50 (Rat): 130 - 340 mg/kg

Dermal
Product: LD 50 (Rabbit): 1.350 mg/kg

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: Causes severe skin burns.

Serious Eye Damage/Eye Irritation
Product: Causes serious eye damage.

Respiratory or Skin Sensitization
Product: Not a skin nor a respiratory sensitizer.

Carcinogenicity
Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

ACGIH Carcinogen List:
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No mutagenic components identified

In vivo
Product: No data available.

Reproductive toxicity
Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure
Product: None known.

Specific Target Organ Toxicity - Repeated Exposure
Product: None known.

Aspiration Hazard
Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
Sodium hydroxide — LOAEL (Sander lucioperca, 24 h): >= 35 mg/l
LC 50 (Western mosquitofish (Gambusia affinis), 96 h): 125 mg/l
LC 50 (Lepomis macrochirus, 48 h): 99 mg/l

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
Sodium hydroxide — LC 50 (Ophryotrocha diadema, 48 h): 33 - 100 mg/l
LOAEL (Daphnia magna): 40 - 240 mg/l
LC 50 (Cockle, 48 h): 330 - 1.000 mg/l
EC 50 (Water flea (Ceriodaphnia dubia), 48 h): 34,59 - 47,13 mg/l
EC 50 (Ceriodaphnia sp., 48 h): 40,4 mg/l

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: Expected to be readily biodegradable.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: The product is water soluble and may spread in water systems.

Other adverse effects: Harmful to aquatic organisms. The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

TDG

UN Number:	UN 1823
UN Proper Shipping Name:	SODIUM HYDROXIDE, SOLID
Transport Hazard Class(es)	
Class:	8
Label(s):	8
Packing Group:	II
Marine Pollutant:	No
Special precautions for user:	Keep away from acids.

IMDG

UN Number:	UN 1823
UN Proper Shipping Name:	SODIUM HYDROXIDE, SOLID
Transport Hazard Class(es)	
Class:	8
Label(s):	8
EmS No.:	F-A, S-B
Packing Group:	II
Marine Pollutant:	No
Special precautions for user:	Keep away from acids.

IATA

UN Number:	UN 1823
UN Proper Shipping Name:	Sodium hydroxide, solid
Transport Hazard Class(es):	
Class:	8
Label(s):	8
Packing Group:	II
Marine Pollutant:	No

Special precautions for user:	Keep away from acids.
Cargo aircraft only:	Allowed.

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

15. Regulatory information

Canada Federal Regulations

List of Toxic Substances (CEPA, Schedule 1)
Not Regulated

Export Control List (CEPA 1999, Schedule 3)
Not Regulated

National Pollutant Release Inventory (NPRI)

Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements

NPRI PT5	Not Regulated

Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)

NPRI	Not Regulated

Greenhouse Gases
Not Regulated

Controlled Drugs and Substances Act

CA CDSI	Not Regulated
CA CDSII	Not Regulated
CA CDSIII	Not Regulated
CA CDSIV	Not Regulated
CA CDSV	Not Regulated
CA CDSVII	Not Regulated
CA CDSVIII	Not Regulated

Precursor Control Regulations
Not Regulated

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Mexico INSQ:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory

16. Other information

Revision Date: 09.12.2020

Version #: 2.8

Source of information: Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, information from the Toxicology Data Network (TOXNET), European Chemical Agency (ECHA) substance dossiers, IARC Monographs, US National Toxicology Program data, the Agency for Toxic Substances and Disease Registry, other manufacturer's SDSs and other sources, as appropriate.

Further Information: No data available.

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