MATERIAL SAFETY DATA SHEET

SODIUM HYDROXIDE

MARUTI COLOR & CHEMICAL

Section 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identification:

Product name	:	SODIUM HYDROXIDE
Synonyms	:	CAUSTIC SODA
Formula	:	NaOH
HSN	:	28151110
CAS-No.	:	1310-73-2
EC Number	:	215-185-5

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Identified uses	:	Laboratory chemicals, Manufacture of substances
Uses advised against	:	No uses advised against has been identified

1.3 Details of the supplier of the safety data sheet:

- **Company** : **Maruti Color & Chemical**
  6, Siddhipark Soc.,
  Opp. Santoshinagar,
  L.H. Road, Surat - 395006
  Dist.: Surat, State : Gujarat
  Email: info@marutichemex.com
  Web: www.marutichemex.com
- **E-Mail Address** : info@marutichemex.com

1.4 Emergency Telephone Number:

- For Emergency contact on : +91 7567626199
- For Whatsapp Message on : +91 8799552145

SECTION 2 : HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008

Corrosive to Metals (Category 1), H290
Skin corrosion/irritation (Sub-category 1A), H314
Serious eye damage/irritation (Category 1), H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label Elements:

Pictogram

Signal word Danger

Hazard statement(s)

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Precautionary statement(s)

PREVENTION

P260	Do not breathe dusts or mists.
P264	Wash hands, skin and face thoroughly after handling.
P234	Keep only in original packaging.
P290	Absorb spillage to prevent material-damage.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

RESPONSE

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	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363	Wash contaminated clothing before reuse.
P310	Immediately call a POISON CENTRE/doctor or physician.

STORAGE

P406	Store in a corrosive resistant container with a resistant inner liner
P405	Store locked up

DISPOSAL

H314	Dispose of contents/container to an approved waste disposal plant.

2.3 Other Hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information :

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms	:	Caustic soda
Formula	:	NaOH
Molecular weight	:	40.00 g/mol
CAS-No.	:	1310-73-2
EC-No.	:	215-185-5

3.2 Mixtures:

Component	Concentration	Classification
SODIUM HYDROXIDE		
CAS-No 1310-73-2 EC-No 215-185-5	≤ 100%	Corrosive to metals (Category 1), H290 Skin corrosion (Category 1B), H314 Serious eye damage (Category 1), H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4 : FIRST AID MEASURES

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralize.

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5 : FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Sodium oxides

Not combustible.

Ambient fire may liberate hazardous vapours.

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.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7 : HANDLING AND STORAGE

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

No metal containers.

Tightly closed. Dry.

Storage class

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

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Workers	Inhalation	Long-term local effects	1 mg/m^3
Consumers	Inhalation	Long-term local effects	1 mg/m^3

8.2 Exposure controls

Personal protective equipment

Eye/face protection

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

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

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

Body Protection

Protective clothing

Respiratory protection

required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type: Filter type P2
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

a.	Physical state	Flakes/Prills
b.	Colour	White
c.	Odour	odourless
d.	Melting point/freezing point	Melting point: 318 °C
e.	Initial boiling point and boiling range	1.390 °C at 1.013 hPa.
f.	Flammability (solid, gas)	No data available
g.	Upper/lower flammability or explosive limits	The product is not flammable.
h.	Flash point	Not applicable
i.	Autoignition temp.	Not applicable
j.	Decomposition temp.	No data available
k.	pH	ca.> 14 at 100 g/l at 20 °C
l.	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 23 mPa.s at 20 °C
m.	Water solubility	1.090 g/l at 20 °C
n.	Partition coefficient: n-octanol/water	No data available for inorganic substances

o.	Vapour pressure	No data available
p.	Density	2.13 g/cm^3 at 20 °C
	Relative density	No data available
q.	Relative vapour Density	No data available
r.	Particle Characteristics	No data available
s.	Explosive properties	No data available
t.	Oxidizing properties	none

9.2 Other information:

Relative vapor density 1.38 - (Air = 1.0)

SECTION 10 : STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:
Acetone
Chlorine
Ethylene oxide
Fluorine
Hydrogen halides
Hydrazine hydrate
Hydroxylamine
Acid anhydrides
Acrolein
Acid chlorides
Acids
Sulfuric acid
Chloroform
Water
Hydrogen peroxide
Anhydrides
Phosphides
Halogen-halogen compounds
trichloroethene

Can decompose violently in contact with:
Organic Substances
Hydrogen sulphide

Risk of ignition or formation of inflammable gases or vapours with:
Powdered aluminium

Ammonium salts
persulfates
Sodium borohydride
Phosphorus
Oxides of phosphorus
Halogenated hydrocarbon
Light metals
Metals
Risk of explosion/exothermic reaction with:
Bromine
Calcium
In powder form
furfuryl alcohol
Nitromethane
Peroxides
Organic nitro compounds
Nitriles
Acrylic monomers
Chloroform with Acetone
Nitrobenzene with Methanol
Nitrobenzene with salts
Magnesium Zinc and Tin
(In the presence of atmospheric oxygen and/or moisture)

10.4 Conditions to avoid

No information available

10.5 Incompatible materials

Aluminium, brass, Metals, metal alloys, Zinc, Tin

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
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)
Remarks: Causes serious eye damage.

Respiratory or skin sensitization
Patch test: - In vitro study
Result: negative
Remarks: (ECHA)

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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.

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 : ECOLOGICAL INFORMATION

12.1 Toxicity

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 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.
Neutralization possible in waste water treatment plants.
Discharge into the environment must be avoided.

SECTION 13 : Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14 : Transport information

14.1 UN number

ADR/RID : 1823 IMDG : 1823 IATA : 1823

14.2 UN proper shipping name

ADR/RID : SODIUM HYDROXIDE, SOLID
IMDG : SODIUM HYDROXIDE, SOLID
IATA : Sodium hydroxide, solid

14.3 Transport hazard class(es)

ADR/RID : 8 IMDG : 8 IATA : 8

14.4 Packaging group

ADR/RID : II IMDG : II IATA : II

14.5 Environmental hazards

ADR/RID : no IMDG Marine pollutant : no IATA : no

14.6 Special precautions for user

Tunnel restriction code : (E)

Further information : No data available

SECTION 15 : Regulatory information

15.1 **Safety , health and environmental regulations / legislation specific for the substance or mixture**

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Other regulations

Take note of Dir. 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16 : Other information

Full text of H-Statements referred to under sections 2 and 3.

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organization for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New

Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances ; (Q) SAR - (Quantitative) Structure Activity Relationship ; REACH – Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative.

Further information

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 with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Maruti color & Chemical and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See our Website and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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