

## Safety Data Sheet

### 1. Identification of the substance/mixture and of the company/undertaking

#### Product identifier:

Product name: Sodium Hydroxide

Reference number(SDS): 39157jis\_E-1

#### Product type:

Food Additives

※This product conform to JSFA(Japan's Specifications and Standards for Food Additives).

#### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the product: Manufacturing agent

Uses advised against: Do not use for other purposes.

※Shall be neutralized or removed before the preparation of the finished food.

#### Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.co.jp

### 2. Hazards identification

#### GHS classification and label elements of the product

#### Classification of the substance or mixture

##### HEALTH HAZARDS

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Specific target organ toxicity – single exposure: Category 1(respiratory system)

##### ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

#### Label elements



Signal word: Danger

#### HAZARD STATEMENT

H314–Causes severe skin burns and eye damage

H318–Causes serious eye damage

H370–Causes damage to organs

H402–Harmful to aquatic life

#### PRECAUTIONARY STATEMENT

##### Prevention

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash contaminated parts thoroughly after handling.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

Do not eat, drink or smoke when using this product.

**Response**

- Immediately call a POISON CENTER/doctor/physician.
- IF exposed or concerned: Call a POISON CENTER/doctor/physician.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

**Storage**

- Store locked up.

**Disposal**

- Dispose of contents/container in accordance with local/national regulation.

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**3. Composition/information on ingredients****Mixture/Substance selection:****Substance****Common name, synonyms: Caustic Soda****Ingredient name: Sodium hydroxide****Content (%): 95.0 <****Chemical formula: HNaO****Chemicals No, Japan: 1-410****CAS No.: 1310-73-2****MW: 40.00****ECNO: 215-185-5**

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**4. First-aid measures****Descriptions of first-aid measures****General measures**

- Immediately call a POISON CENTER/doctor/physician.
- Keep victim warm and quiet.
- Call emergency medical service.

**IF INHALED**

- Remove person to fresh air and keep comfortable for breathing.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Call a POISON CENTER/doctor/physician if you feel unwell.

**IF ON SKIN (or hair)**

- Take off immediately all contaminated clothing. Rinse skin with water or shower.
- If skin irritation or rash occurs: Get medical advice/attention.
- Remove and isolate contaminated clothing and shoes.
- For minor skin contact, avoid spreading material on unaffected skin.

**IF IN EYES**

- Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.

**IF SWALLOWED**

- Rinse mouth. Do NOT induce vomiting.
- Call a POISON CENTER/doctor/physician if you feel unwell.
- If within a few minutes after ingestion, one small glass of water may be given to drink.

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Cough. Sore throat. Burning sensation. Shortness of breath. Abdominal pain. Burns in mouth and throat.  
Nausea. Vomiting. Shock or collapse.

(Symptoms when skin and/or eye contact)

Conjunctival redness of the eyes. Redness of the skin. Pain. Serious burns. Blisters. Blurred vision.

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## 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

The product is non-flammable.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

Contact with moisture or water may generate sufficient heat to ignite combustible materials.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

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

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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## 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

PUBLIC SAFETY: Ventilate closed spaces before entering.

EVACUATION : Spill: See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Sweep spilled substance into covered plastic containers.

Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Prevent entry into waterways, sewers, basements or confined areas.

Do not get water inside containers.

Keep out of low areas.

## 7. Handling and storage

### Precautions for safe handling

#### Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

#### Safety Measures

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

Use personal protective equipment as required.

When using do not eat, drink or smoke.

#### Any incompatibilities

Acids, Water, Ammonium salts, Metals should not be mixed with the chemicals.

#### Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wash contaminated clothing before reuse.

### Storage

#### Conditions for safe storage

Store in a well-ventilated place. Keep container tightly closed.

Keep cool. Protect from sunlight.

Store in accordance with local/national regulation.

Store locked up.

Container and packaging materials for safe handling data is not available.

### Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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## 8. Exposure controls/personal protection

### Control parameters

Control value in MHLW is not available.

#### Adopted value

JSOH(1978) (ceiling) 2mg/m<sup>3</sup>

ACGIH(1992) STEL: C 2mg/m<sup>3</sup> (URT, eye & skin irr)

### Exposure controls

#### Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

#### Individual protection measures

##### Respiratory protection

Wear respiratory protection.

Wear positive pressure self-contained breathing apparatus (SCBA).

##### Hand protection

Wear protective gloves. Recommended material(s): neoprene, nitrile, butyl rubber, viton, PVC, impermeable or chemical resistant rubber

Consult with your glove and/or personnel equipment manufacturer for selection of

appropriate compatible materials.

Eye protection

Wear chemical safety goggle.

Wear eye/face protection.

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

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## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Physical state: Lumps having various shapes, including pellets, flakes, rods, or powder.

Color: White

Odor: None

Odor threshold data is not available.

Melting point/Freezing point: 318°C

Boiling point or initial boiling point: 1388°C

Boiling range data is not available.

Flammability (gases, liquids and solids): Non-flammable

Lower and upper explosion limit/flammability limit data is not available.

Flash point: Non-flammable

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH: ca. 14 (50g/L, 20°C)

Dynamic viscosity data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 109g/100 ml (20°C)

Solubility in solvent: Freely soluble in ethanol (99.5).

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Vapor density data is not available.

Density and/or relative density: 2.13g/cm<sup>3</sup>(20°C)

Relative vapor density (Air=1) data is not available.

Relative density of the Vapor/air - mixture at 20°C (Air = 1) data is not available.

Particle characteristics data is not available.

### Other information

Critical temperature data is not available.

Evaporation rate data is not available.

VOC data is not available.

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## 10. Stability and Reactivity

### Reactivity

Runaway polymerization will not occur.

### Chemical stability

Stable under normal storage/handling conditions.

Deliquescence.

### 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 a combustible/explosive gas.

Reacts with ammonium salts. This produces ammonia. This generates fire hazard.

Contact with moisture and water generates heat.

## Conditions to avoid

Contact with incompatible materials.

Moisture. Heat.

## Incompatible materials

Acids, Water, Ammonium salts, Metals.

## Hazardous decomposition products

Hydrogen gas, Ammonia, Sodium oxides.

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## 11. Toxicological Information

## Information on toxicological effects

Acute toxicity data is not available.

Labor standard law, Japan; Toxic

Sodium hydroxide

## Irritant properties

## Skin corrosion/irritation

[GHS Cat. based on pH]

11.5 ≤ pH, accordingly Skin corrosion/irritation: Category 1

[GHS Cat. Japan, base data]

pig/rabbit : severe necrosis (ACGIH 7th, 2001 et al)

## Serious eye damage/irritation

[GHS Cat. based on pH]

11.5 ≤ pH, accordingly Serious eye damage/eye irritation: Category 1

[GHS Cat. Japan, base data]

rabbit : corrosive (SIDS, 2009)

Allergenic and sensitizing effects data is not available.

## Germ cell mutagenicity

[GHS Cat. based on pH]

mice\_in vivo somatic cell and germ cell mutagenicity tests : Negative(SIDS, 2009)

Reverse-mutation assay in bacteria (Ames test) :Negative(SIDS, 2009)

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

## STOT

## STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

respiratory system (PATTY 5th, 2001)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

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## 12. Ecological Information

## Ecotoxicity

## Aquatic toxicity

H402-Harmful to aquatic life

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

Crustacea (Ceriodaphnia reticulata) LC50=40.4mg/L/48hr (SIDS, 2004)

## Water solubility

109 g/100 ml (20°C) (ICSC, 2010)

## Persistence and degradability

Persistence and degradability data is not available.

## Bioaccumulative potential

Bioaccumulative potential data is not available.

**Mobility in soil**

Mobility in soil data is not available.

**Other adverse effects**

Ozone depleting chemical data is not available.

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**13. Disposal considerations**

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

**Waste treatment methods**

Avoid release to the environment.

Dispose of contents/container in accordance with local/national regulation.

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**14. Transport Information****UN No., UN CLASS**

UN No. or ID No.: 1823

UN Proper Shipping Name : SODIUM HYDROXIDE, SOLID

Class or division (Transport hazard class) : 8

Packing group : II

ERG GUIDE No.: 154

**IMDG Code (International Maritime Dangerous Goods Regulations)**

UN No.: 1823

Proper Shipping Name : SODIUM HYDROXIDE, SOLID

Class or division : 8

Packing group : II

**IATA Dangerous Goods Regulations**

UN No.: 1823

Proper Shipping Name : SODIUM HYDROXIDE, SOLID

Class or division : 8

Hazard labels : Corrosive

Packing group : II

**Environmental hazards**

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

**Maritime transport in bulk according to IMO instruments**

Noxious Liquid ; Cat. Y

Sodium hydroxide(Y-258)

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**15. Regulatory Information**

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

1310-73-2

All components are listed or exempted.

**Other regulatory information**

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

## Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

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**16. Other information**

## GHS classification and labelling

H314–Skin Corr. 1: H314 Causes severe skin burns and eye damage

H318–Eye Dam. 1: H318 Causes serious eye damage

H370–STOT SE 1: H370 Causes damage to organs

H402–Aquatic Acute 3: H402 Harmful to aquatic life

## Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39–18)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2022 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2019

JIS Z 7253 : 2019

2021 Recommendation on TLVs (JSOH)

Supplier's data/information

Chemicals safety data management system "GHS Assistant" Version 4.18 (<https://www.asahi-ghs.com/>)

NITE Chemical Risk Information Platform "NITE-CHRIP"

([https://www.nite.go.jp/en/chem/chrip/chrip\\_search/systemTop](https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop))

GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

## Definitions and Abbreviations

SDS (Safety Data Sheet)

LD50 (Lethal Dose, 50%)

LC50 (Lethal Concentration, 50%)

IARC (International Agency for Research on Cancer)

ACGIH (American Conference of Governmental Industrial Hygienists)

EPA (US Environmental Protection Agency)

NTP (US National Toxicology Program)

JSOH (Japan Society for Occupational Health)

EU (European Union)

EC50 (Effective Concentration, 50%)

NOEC (No Observed Effect Concentration)

BOD (Biochemical Oxygen Demand)

COD (Chemical Oxygen Demand)

BCF (Bioconcentration Factor)

anh (anhydride)

## General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2020).