

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Name** **SODIUM HYDROXIDE FLAKES**

**Other means of identification**

**Product Code** 10203

**Synonyms** Caustic Soda Flakes, Caustic Soda, Sodium Hydroxide, Anhydrous Sodium Hydroxide, NaOH, Soda Lye,

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Alkaline cleaner

**Uses advised against** Follow the directions for use on the label when applying this product

**Details of the supplier of the safety data sheet**

**Manufacturer Address**

PSSI Chemical Innovations  
3729 Peddle Hollow Road  
Kieler, WI 53812 USA

**Emergency telephone number**

**Company Phone Number** 888-671-5366

**Emergency Telephone** Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

**Classification**

**OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                   |                           |
|-----------------------------------|---------------------------|
| Serious eye damage/eye irritation | Category 1                |
| Skin corrosion/irritation         | Category 1 Sub-category A |
| Acute toxicity - Oral             | Category 4                |
| Acute toxicity - Dermal           | Category 4                |

**Label elements**

**Emergency Overview**

**DANGER**

**Hazard statements**

Causes severe skin burns and eye damage

Harmful if swallowed

Harmful in contact with skin



**Physical state** Solid

**Color** White

**Odor** Alkaline

**Precautionary Statements - Prevention**

Do not eat, drink or smoke when using this product

Do not breathe dusts or mists

Wash face, hands and any exposed skin thoroughly after handling

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

**Precautionary Statements - Response**

Specific treatment (see Section 4 on SDS)

Immediately call a POISON CENTER or doctor

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 or doctor

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Wash contaminated clothing before reuse. Call a poison center or doctor if you feel unwell

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

- Harmful to aquatic life with long lasting effects

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Chemical Name    | CAS No.   | Weight-% |
|------------------|-----------|----------|
| Sodium Hydroxide | 1310-73-2 | 96-100   |
| Sodium chloride  | 7647-14-5 | 0-2      |
| Sodium carbonate | 497-19-8  | 0-2      |

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

**4. FIRST AID MEASURES**

**First aid measures**

**Eye contact** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Seek immediate medical attention/advice.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing and shoes before reuse. For severe burns, immediate medical attention is required. Do not use solvents or thinners.

**Inhalation** Remove to fresh air. Administer oxygen if breathing is difficult. Call a physician immediately.

**Ingestion** Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water afterwards. Never give anything by mouth to an unconscious person. Call a physician immediately.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** See Section 11 for symptom information.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Suitable extinguishing media**

Dry chemical. Water spray (fog). Carbon dioxide (CO2). Foam.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical**

Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Exothermic reaction will occur upon dilution with water.

**Hazardous combustion products** Produce toxic and/or corrosive substances on contact with water.

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Use personal protection recommended in Section 8. Ensure adequate ventilation, especially in confined areas. Avoid creating dust. Avoid breathing dust.

**For emergency responders** Isolate area. Keep unnecessary personnel away.

**Environmental precautions**

**Environmental precautions** Keep out of water supplies and sewers. This material is alkaline and may raise the pH of surface waters with low buffering capacity. Release should be reported if required to appropriate agencies. Prevent entry into waterways, sewers, basements or confined areas. See section 12 for additional ecological information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Isolate spill or leak area immediately. Stay upwind. Do not touch or walk through spilled material. Collect spillage. Shovel dry material into suitable container. Remainder may be neutralized with a mild acid (vinegar) and rinsed to a sewer.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** Exothermic reaction will occur upon dilution with water. When making solutions or diluting, only add caustic soda slowly to surface of cold water while stirring. This product is not safe on soft metals, galvanized and painted surfaces. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Use only in well-ventilated areas. Avoid breathing dust, vapors, or mist. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Do not store in aluminum containers or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Do not allow water to get into container. Keep separated from incompatible substances.

**Incompatible materials** Acids. Oxidizers. Halogens. Amphoteric metals (aluminum, copper, zinc).

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

| Chemical Name                 | ACGIH TLV                    | OSHA PEL   | NIOSH IDLH   |
|-------------------------------|------------------------------|--|--|
| Sodium Hydroxide<br>1310-73-2 | Ceiling: 2 mg/m <sup>3</sup> | TWA: 2 mg/m <sup>3</sup><br>(vacated) Ceiling: 2 mg/m <sup>3</sup> | IDLH: 10 mg/m <sup>3</sup><br>Ceiling: 2 mg/m <sup>3</sup> |

**Appropriate engineering controls**

**Engineering Controls** Showers, eyewash stations, ventilation system.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Splash proof chemical goggles and face shield.  
**Skin and body protection** Wear protective Neoprene™ gloves or rubber gloves. Wear suitable protective clothing. Rubber boots recommended.  
**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations** Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing and shoes before reuse. Do not eat, drink or smoke when using this product.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

|                                       |                          |                         |                          |
|---------------------------------------|--------------------------|-------------------------|--------------------------|
| <b>Physical state</b>                 | Solid                    | <b>Odor</b>             | Alkaline                 |
| <b>Appearance</b>                     | Flakes                   | <b>Odor threshold</b>   | No information available |
| <b>Color</b>                          | White                    | <b>Remarks • Method</b> | ±1 @ 21°C (2% solution)  |
| <b>Property</b>                       | <b>Values</b>            |                         |                          |
| <b>pH</b>                             | 13                       |                         |                          |
| <b>Melting point / freezing point</b> | 318 °C / 604 °F          |                         |                          |
| <b>Boiling point / boiling range</b>  | 1390 °C / 2534 °F        |                         |                          |
| <b>Flash point</b>                    | No information available |                         |                          |
| <b>Evaporation rate</b>               | No information available |                         |                          |
| <b>Flammability (solid, gas)</b>      | No information available |                         |                          |
| <b>Flammability Limit in Air</b>      |                          |                         |                          |
| <b>Upper flammability limit:</b>      | No information available |                         |                          |
| <b>Lower flammability limit:</b>      | No information available |                         |                          |
| <b>Vapor pressure</b>                 | < 18 mmHg @20°C          |                         |                          |
| <b>Vapor density</b>                  | 1.38                     |                         |                          |
| <b>Specific Gravity</b>               | No information available |                         |                          |
| <b>Water solubility</b>               | 347g/100g @ 100°C        |                         |                          |
| <b>Solubility in other solvents</b>   | No information available |                         |                          |
| <b>Partition coefficient</b>          | No information available |                         |                          |
| <b>Autoignition temperature</b>       | No information available |                         |                          |
| <b>Decomposition temperature</b>      | No information available |                         |                          |
| <b>Kinematic viscosity</b>            | No information available |                         |                          |
| <b>Dynamic viscosity</b>              | No information available |                         |                          |
| <b>Explosive properties</b>           | No information available |                         |                          |
| <b>Oxidizing properties</b>           | No information available |                         |                          |
| <b>VOC Content (%)</b>                | 0.00%                    |                         |                          |
| <b>Bulk density</b>                   | 2.13 g/cc                |                         |                          |

**10. STABILITY AND REACTIVITY**

**Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions. Exothermic reaction will occur upon dilution with water.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

This product is not safe on soft metals, galvanized and painted surfaces. Keep from any possible contact with water. Exothermic reaction will occur upon dilution with water. Dust formation.

**Incompatible materials**

Acids. Oxidizers. Halogens. Amphoteric metals (aluminum, copper, zinc).

**Hazardous Decomposition Products**

Hazardous Decomposition products formed under fire conditions – Sodium oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Corrosive. Inhalation of dust in high concentration may cause irritation of respiratory system. Vapors may be irritating to eyes, nose, throat, and lungs. |
| <b>Eye contact</b>  | Corrosive to the eyes and may cause severe damage including blindness. Symptoms include itching, burning, redness, and tearing of eyes.                    |
| <b>Skin Contact</b> | Corrosive. Contact causes severe skin irritation and possible burns.   |
| <b>Ingestion</b>    | Harmful if swallowed. Can burn mouth, throat, and stomach. Ingestion causes burns of the upper digestive and respiratory tracts.                           |

| Chemical Name                 | Oral LD50            | Dermal LD50              | Inhalation LC50                   |
|-------------------------------|----------------------|--------------------------|-----------------------------------|
| Sodium Hydroxide<br>1310-73-2 | = 325 mg/kg ( Rat )  | = 1350 mg/kg ( Rabbit )  | -                                 |
| Sodium chloride<br>7647-14-5  | = 3 g/kg ( Rat )     | > 10000 mg/kg ( Rabbit ) | > 42 g/m <sup>3</sup> ( Rat ) 1 h |
| Sodium carbonate<br>497-19-8  | = 4090 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit )  | -                                 |

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**Numerical measures of toxicity - Product Information**

**Unknown Acute Toxicity** 0 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

|                    |                |
|--------------------|----------------|
| <b>Oral LD50</b>   | 331.00 mg/kg   |
| <b>Dermal LD50</b> | 1,366.30 mg/kg |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Harmful to aquatic life with long lasting effects

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical Name                 | Fish   | Crustacea  |
|-------------------------------|--|--|
| Sodium Hydroxide<br>1310-73-2 | 45.4: 96 h Oncorhynchus mykiss mg/L LC50 static  | -  |
| Sodium chloride<br>7647-14-5  | 4747 - 7824: 96 h Oncorhynchus mykiss mg/L LC50 flow-through<br>5560 - 6080: 96 h Lepomis macrochirus mg/L LC50 flow-through<br>6020 - 7070: 96 h Pimephales promelas mg/L LC50 static<br>6420 - 6700: 96 h Pimephales promelas mg/L LC50 static<br>12946: 96 h Lepomis macrochirus mg/L LC50 static<br>7050: 96 h Pimephales promelas mg/L LC50 semi-static | 340.7 - 469.2: 48 h Daphnia magna mg/L EC50 Static<br>1000: 48 h Daphnia magna mg/L EC50 |
| Sodium carbonate<br>497-19-8  | 310 - 1220: 96 h Pimephales promelas mg/L LC50 static<br>300: 96 h Lepomis macrochirus mg/L LC50 static  | 265: 48 h Daphnia magna mg/L EC50  |

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available.

**Mobility**

Soluble in water.

**Other adverse effects**

No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (US SARA Section 304). If release occurs in the US and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

**Contaminated packaging**

Dispose of in accordance with federal, state and local regulations.

**14. TRANSPORT INFORMATION**

**DOT**

**UN/ID No.** 1823  
**Proper shipping name** Sodium hydroxide, solid  
**Hazard Class** 8  
**Packing Group** II  
**Emergency Response Guide Number** 154

**15. REGULATORY INFORMATION**

**International Inventories**

**TSCA** Complies  
**DSL/NDSL** Complies  
**EINECS/ELINCS** Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

**Acute health hazard** Yes  
**Chronic Health Hazard** No  
**Fire hazard** No  
**Sudden release of pressure hazard** No  
**Reactive Hazard** Yes

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical Name                 | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|-------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Sodium Hydroxide<br>1310-73-2 | 1000 lb                     | -                      | -                         | X                          |

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name                 | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ)                  |
|-------------------------------|--------------------------|----------------|---|
| Sodium Hydroxide<br>1310-73-2 | 1000 lb                  | -              | RQ 1000 lb final RQ<br>RQ 454 kg final RQ |

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

| Chemical Name                 | New Jersey | Massachusetts | Pennsylvania |
|-------------------------------|------------|---------------|--------------|
| Sodium Hydroxide<br>1310-73-2 | X          | X             | X            |

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. OTHER INFORMATION**

# SODIUM HYDROXIDE FLAKES

Revision Date 27-May-2021

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|                      |                          |                |                    |   |
|----------------------|--------------------------|----------------|--------------------|---|
| <b>NFPA</b>          | Health hazards 3         | Flammability 0 | Instability 1      | <b>Physical and Chemical Properties</b><br>W - Water reactive Corrosive, Alkaline       |
| <b>HMIS</b>          | Health hazards 3         | Flammability 0 | Physical hazards 2 | <b>Personal protection</b> F (safety glasses, gloves, synthetic apron, dust respirator) |
| <b>Prepared By</b>   | Technical Department     |                |                    |   |
| <b>Issue Date</b>    | 27-May-2021              |                |                    |   |
| <b>Revision Date</b> | 27-May-2021              |                |                    |   |
| <b>Version</b>       | 1                        |                |                    |   |
| <b>Revision Note</b> | No information available |                |                    |   |

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The health hazards given on this SDS apply to this product in its concentrated form (as supplied) and may differ significantly at use dilution. The signs and symptoms of exposure apply only to negligence in handling or misuse of the concentrated product and not to the routine exposure of the diluted product under conditions of ordinary use.

**End of Safety Data Sheet**