# Safety Data Sheet

## 1. Identification

<table>
<thead>
<tr>
<th>Product identifier</th>
<th>Sodium Hydroxide, Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number</td>
<td>01310-73-2</td>
</tr>
<tr>
<td>Synonyms</td>
<td>Caustic Soda Micropellets, Caustic Soda Prills.</td>
</tr>
<tr>
<td>Recommended use</td>
<td>Raw Material</td>
</tr>
<tr>
<td>Recommended restrictions</td>
<td>None known</td>
</tr>
</tbody>
</table>

### Manufacturer/Importer/Supplier/Distributor information

**Manufacturer**

- **Company name**: Formosa Plastics Corporation
- **Factory Address**: 100 Shui-Guan RD, Jen-wu Shiang, Kaohsiung County, Taiwan
- **Telephone**: +886-7-3711411 ext 5406
- **Product Information**: +886-2-2712-2211 ext 6098
- **E-mail**: Evenwang@fpc.com.tw

**Distributor**

- **Company name**: Connection Chemical, LP
- **Address**: 126 South State Street, Suite 200 Newtown, PA 18940
- **Telephone**: Chemtrec – Domestic +1-800-424-9300
- **Product Information**: +1-215-493-4240
- **E-mail**: Orders@connectionchemical.com
2. HAZARDS IDENTIFICATION

Physical hazards

Not classified.

Health hazards

Skin corrosion/irritation

Category 1B

Serious eye damage/eye irritation

Category 1

Corrosive to Metals

Category 1

Specific Target Organ Toxicity (Single Exposure)

Category 3

OSHA defined hazards

Not classified.

GHS Label elements, including precautionary statements

Pictogram:

Signal word

Danger

Hazard statement(s)

May be corrosive to metals.
Causes severe skin burns and serious eye damage.
May cause respiratory irritation.

Precautionary statement(s)

Prevention

Keep only in original packaging.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash skin thoroughly after handling.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Use only outdoors or in a well-ventilated area.
If swallowed: Rinse mouth. Do NOT induce vomiting.

Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
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

Storage

Store in corrosive resistant container with a resistant inner liner.
Store locked up.
<table>
<thead>
<tr>
<th>Disposal</th>
<th>Sore in a well ventilated place. Keep container tightly closed. Dispose of contents/container in accordance with local/regional/national/international regulations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard(s) not otherwise classified (HNOC)</td>
<td>None known.</td>
</tr>
<tr>
<td>Supplemental information</td>
<td>None.</td>
</tr>
</tbody>
</table>
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Wt. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide, Solid</td>
<td>1310-73-2</td>
<td>Approx.99</td>
</tr>
</tbody>
</table>

Percentage ranges of composition to protect confidentiality or due to batch variation.
**Safety Data Sheet**

### 4. First-aid measures

**Inhalation**
Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**
Take off immediately all contaminated clothing. Rinse skin with water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

**Eye contact**
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

**Ingestion**
Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

**Most important symptoms/effects, acute and delayed**
Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

**Indication of immediate medical attention and special treatment needed**
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
## Safety Data Sheet

### 5. Fire-fighting measures

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>Do not use water jet as an extinguisher, as this will spread the fire.</td>
</tr>
<tr>
<td>Specific hazards arising from the chemical</td>
<td>During fire, gases hazardous to health may be formed.</td>
</tr>
<tr>
<td>Special protective equipment and precautions for firefighters</td>
<td>Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use water spray to cool unopened containers.</td>
</tr>
<tr>
<td>Fire fighting equipment/instructions</td>
<td>Use standard firefighting procedures and consider the hazards of other involved materials.</td>
</tr>
</tbody>
</table>
| Specific methods                     | No unusual fire or explosion hazards noted. }
6. Accidental release measures

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

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

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, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store locked up. Store in original tightly closed container.
Store away from incompatible materials (see Section 10 of the SDS).
8. Exposure controls/personal protection

Occupational exposure limits

1. US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide, Solid (CAS 1310-73-2)</td>
<td>PEL</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

2. US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide, Solid (CAS 1310-73-2)</td>
<td>Ceiling</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

3. US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Material</th>
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<th>Value</th>
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</thead>
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<td>Sodium Hydroxide, Solid (CAS 1310-73-2)</td>
<td>Ceiling</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

Biological limit values

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

Appropriate engineering controls

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. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

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

Skin protection

Hand protection
Wear appropriate chemical resistant gloves.

Other
Wear appropriate chemical resistant clothing.

Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
9. Physical and chemical properties

Appearance
- Physical state: Solid.
- Form: Solid.
- Color: Not available.

Odor: Not available.
Odor threshold: Not available.

pH: 12 0.05% wt/wt solution

Melting point/freezing point: 613.4 °F (323 °C)
Initial boiling point and boiling range: 2530.4 °F (1388 °C)

Flammability
- Flammability limit - lower (%): Not available.
- Flammability limit - upper (%): Not available.
- Explosive limit - lower (%): Not available.
- Explosive limit - upper (%): Not available.

Vapor pressure: < 0.0000001 kPa at 25 °C

Solubility
- Solubility (water): 1110 g/l
- Partition coefficient (n-octanol/water): Not available.

Auto-ignition temperature: Not available.
Decomposition temperature: Not available.

Viscosity: Not available.

Other information
- Density: 2.13 g/cm³ estimated
- Dynamic viscosity: 4 mPa·s
- Dynamic viscosity temperature: 662 °F (350 °C)
- Kinematic viscosity: 1.878 mm²/s estimated
- Molecular formula: H-Na-O
- Molecular weight: 40 g/mol
- Specific gravity: 2.13 at 25 °C
10. Stability and reactivity

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>Reacts violently with strong acids. This product may react with oxidizing agents.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Material is stable under normal conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Hazardous polymerization does not occur.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Do not mix with other chemicals. Contact with incompatible materials.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Acids. Oxidizing agents.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>No hazardous decomposition products are known.</td>
</tr>
</tbody>
</table>
11. Toxicological information

Information on likely routes of exposure

- Inhalation: May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
- Skin contact: Causes severe skin burns.
- Eye contact: Causes serious eye damage.
- Ingestion: Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics

- Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

- Acute toxicity: Not available.
- Skin corrosion/irritation: Causes severe skin burns and eye damage.
- Serious eye damage/eye irritation: Causes serious eye damage.
- Respiratory or skin sensitization:
  - Respiratory sensitization: Not available.
  - Skin sensitization: This product is not expected to cause skin sensitization.
- Germ cell mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
- Reproductive toxicity: This product is not expected to cause reproductive or developmental effects.
- Specific target organ toxicity - single exposure: Not classified.
- Specific target organ toxicity - repeated exposure: Not classified.
- Aspiration hazard: Not available.
- Chronic effects: Prolonged inhalation may be harmful.
12. Ecological information

Ecotoxicity

Persistence and degradability
Bioaccumulative potential
No data available.
Mobility in soil
No data available.
Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
13. Disposal considerations

Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with government regulations.

Local disposal regulations
Dispose in accordance with all applicable regulations.

Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
14. Transport information

**DOT**

- UN number: UN1823
- UN proper shipping name: Sodium hydroxide, solid
- Transport hazard class(es)
  - Class: 8
  - Subsidiary risk: -
  - Label(s): 8
- Packing group: II
- Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
- Special provisions: IB8, IP2, IP4, T3, TP33
- Packaging exceptions: 154
- Packaging non bulk: 212
- Packaging bulk: 240

**IATA**

- UN number: UN1823
- UN proper shipping name: Sodium hydroxide, solid
- Transport hazard class(es)
  - Class: 8
  - Subsidiary risk: -
- Packing group: II
- Environmental hazards: No.
- ERG Code: 8L
- Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
- Other information
  - Passenger and cargo aircraft: Allowed.
  - Cargo aircraft only: Allowed.

**IMDG**

- UN number: UN1823
- UN proper shipping name: SODIUM HYDROXIDE, SOLID
- Transport hazard class(es)
  - Class: 8
  - Subsidiary risk: -
- Packing group: II
- Environmental hazards: No.
- EmS: F-A, S-B
Special precautions for user

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
DOT

Read safety instructions, SDS and emergency procedures before handling.
Not applicable.
15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

- TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
  Not regulated.
- CERCLA Hazardous Substance List (40 CFR 302.4)
  Sodium Hydroxide, Solid (CAS 1310-73-2) Listed.
- SARA 304 Emergency release notification
  Not regulated.
  Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

- Hazard categories
  Immediate Hazard - Yes
  Delayed Hazard - No
  Fire Hazard - No
  Pressure Hazard - No
  Reactivity Hazard - No

- SARA 302 Extremely hazardous substance
  Not listed.
- SARA 311/312 Hazardous chemical
  Yes
- SARA 313 (TRI reporting)
  Not regulated.

Other federal regulations

- Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
  Not regulated.
- Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
  Not regulated.
- Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)
  Hazardous substance
- Safe Drinking Water Act (SDWA)
  Not regulated.
- Food and Drug
  Total food additive
- Administration (FDA)
Direct food additive, GRAS food additive

US state regulations

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**
Not listed.

**US. Massachusetts RTK - Substance List**
Sodium Hydroxide, Solid (CAS 1310-73-2)

**US. New Jersey Worker and Community Right-to-Know Act**
Sodium Hydroxide, Solid (CAS 1310-73-2)

**US. Pennsylvania Worker and Community Right-to-Know Law**
Sodium Hydroxide, Solid (CAS 1310-73-2)

**US. Rhode Island RTK**
Sodium Hydroxide, Solid (CAS 1310-73-2)

**US. California Proposition 65**
California Safe Drinking Water and Toxic Enforcement Act of 1986 Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.
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16. Other information, including date of preparation or last revision

<table>
<thead>
<tr>
<th>Issue date</th>
<th>May 4 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version #</td>
<td>Ver.1 2015</td>
</tr>
<tr>
<td>Disclaimer</td>
<td></td>
</tr>
</tbody>
</table>

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