



Formosa Plastics Corporation

Plastics Division, RM.061, 4FL., 201, Tung Hwa N. RD., Taipei, Taiwan

Tel: +886-2-2712-2211 Fax: +886-2-2713-7012

Safety Data Sheet

1. Identification

Product identifier	Sodium Hydroxide, Solid
CAS number	01310-73-2
Synonyms	Caustic Soda MICROPEARLS, Sodium Hydroxide MICROPEARLS
Recommended use	Raw Material
Recommended restrictions	None known

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	Formosa Plastics Corporation
Factory Address	100 Shui-Guan RD, Jen-wu District, Kaohsiung City, Taiwan
Telephone	
Emergency phone number	+886-7-3711411 ext 5406
Product Information	+886-2-2712-2211 ext 6097



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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	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.

Response

If swallowed: Rinse mouth. Do NOT induce vomiting.
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.
Continuerinsing. Immediately call a POISON CENTER or
doctor/ physician.

Storage	<p>Store in corrosive resistant container with a resistant inner liner.</p> <p>Store locked up.</p> <p>Store in a well ventilated place. Keep container tightly closed.</p>
Disposal	<p>Dispose of contents/container in accordance with local/regional/national/international regulations.</p>
Hazard(s) not otherwise classified (HNOC)	<p>None known.</p>
Supplemental information	<p>None.</p>



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3. Composition/information on ingredients

Substances

Chemical name	CAS No.	Wt. %
Sodium Hydroxide, Solid	1310-73-2	Approx. >99

Percentage ranges of composition to protect confidentiality or due to batch variation.



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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.
Most important symptoms/effects, acute and delayed	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.
Indication of immediate medical attention and special treatment needed	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.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.



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5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.



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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.



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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).



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8. Exposure controls/personal protection

Occupational exposure limits

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

Material	Type	Value
Sodium Hydroxide, Solid (CAS 1310-73-2)	PEL	2 mg/m ³

2. US. ACGIH Threshold Limit Values

Material	Type	Value
Sodium Hydroxide, Solid (CAS 1310-73-2)	Ceiling	2 mg/m ³

3. US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
Sodium Hydroxide, Solid (CAS 1310-73-2)	Ceiling	2 mg/m ³

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.



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9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Micropearl
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)

Flash point

Not available.

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

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

Vapor density

Not available.

Relative density

Not available.

Solubility(ies)

Solubility (water)	1110 g/l
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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/cm ³ estimated
Dynamic viscosity	4 mPa.s
Dynamic viscosity temperature	662 °F (350 °C)
Kinematic viscosity	1.878 mm ² /s estimated
Molecular formula	H-Na-O
Molecular weight	40 g/mol
Specific gravity	2.13 at 25 °C



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10. Stability and reactivity

Reactivity

Reacts violently with strong acids. This product may react with oxidizing agents.

Chemical stability

Material is stable under normal conditions.

Possibility of hazardous reactions

Hazardous polymerization does not occur.

Conditions to avoid

Do not mix with other chemicals. Contact with incompatible materials.

Incompatible materials

Acids. Oxidizing agents.

Hazardous decomposition products

No hazardous decomposition products are known.



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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.

OSHA Specifically Regulated
Substances (29 CFR
1910.1001-1050)

Not listed.

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.



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12. Ecological information

Ecotoxicity

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.

Persistence and degradability

No data is available on the degradability of this product.

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.



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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.



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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
Marine pollutant
EmS
Special precautions for user

No.
F-A, S-B
Read safety instructions, SDS and emergency
procedures before handling.
Not applicable.

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



IATA; IMDG





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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.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

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

Issue date	2017.06.01
Version #	version#2
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