Safety datasheet according to regulation (EC) No. 1907/2006

B1502 Caustic Soda Micropearl

Version "0" – Revision date 23/05/2016 – Print Date 23/05/2016

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

- Product name	:	**SOLID CAUSTIC SODA**
- Chemical Name	:	Sodium hydroxide
- Synonyms	:	Sodium hydrate
- Molecular formula	:	NaOH
- REACH Registration Number	:	01-2119457892-27
- Type of product	:	Substance
- CAS-No.	:	1310-73-2

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

- Identified uses :
  - Reagent
  - pH-regulating agent
  - Ion exchange resins regenerating agent
  - Catalyst
  - Etching agent
  - Cleaning agent
  - Chemical intermediate

1.3 Details of the supplier of the safety datasheet - Distributor: Foremost Pro Ltd, Unit 3 Dickinson Place, South Bersted Business Park, Bognor Regis, PO22 9QU, UK

Phone: +44 (0) 1243 771340

Email: tech@foremost-uk.com

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. European regulation (EC) 1272/2008, as amended

Classified as hazardous according to the European regulation (EC) 1272/2008, as amended

Hazard class	Hazard category	Route of exposure	H Phrases
Skin corrosion	Category 1A		H314
Corrosive to metals	Category 1		H290

2.1.2. European Directive 67/548/EEC or 1999/45/EC, as amended

Classified as hazardous according to European Directive 67/548/EEC or 1999/45/EC, as amended

Hazard class / Hazard category	R-phrase(s)
C	R35

2.2. Label elements

2.2.1. Name(s) on label

Hazardous components : Sodium hydroxide

2.2.2. Signal word

Danger

2.2.3. Hazard pictograms

2.2.4. Hazard statements

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

2.2.5. Precautionary statements

Prevention	P260	-	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
	P280	-	Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response	P303 + P361 + P353	-	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
	P305 + P351 + P338	-	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P310	-	Immediately call a POISON CENTER or doctor/ physician.

2.3. Other hazards

- none

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

3.1.1. Concentration

Substance name:	Concentration
Sodium hydroxide CAS-No.: 1310-73-2 / EC-No.: 215-185-5 / Index-No.: 011-002-00-6 REACH Registration Number: 01-2119457892-27	>= 99 %

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

4.1.1. If inhaled

- Move to fresh air.
- Oxygen or artificial respiration if needed.
- Victim to lie down in the recovery position, cover and keep him warm.
- Call a physician immediately.

4.1.2. In case of eye contact

- Call a physician or poison control centre immediately.
- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).
- Take victim immediately to hospital.

4.1.3. In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with plenty of water.
- Keep warm and in a quiet place.
- Call a physician or poison control centre immediately.
- Wash contaminated clothing before re-use.

4.1.4. If swallowed

- Call a physician or poison control centre immediately.

- Take victim immediately to hospital.
- If swallowed, rinse mouth with water (only if the person is conscious).
- Do NOT induce vomiting.
- Artificial respiration and/or oxygen may be necessary.

4.2. Most important symptoms and effects, both acute and delayed

4.2.1. Inhalation

- Corrosive to respiratory system
- Symptoms: Breathing difficulties, Cough, chemical pneumonitis, pulmonary oedema
- Repeated or prolonged exposure: Risk of sore throat, nose bleeds, chronic bronchitis

4.2.2. Skin contact

- Corrosive
- Symptoms: Redness, Swelling of tissue, Burn

4.2.3. Eye contact

- Causes severe burns.
- Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
- May cause permanent eye injury.
- Symptoms: Redness, Lachrymation, Swelling of tissue, Burn

4.2.4. Ingestion

- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
- Symptoms: Nausea, Abdominal pain, Bloody vomiting, Diarrhoea, Suffocation, Cough, Severe shortness of breath

4.3. Indication of any immediate medical attention and special treatment needed

- Take victim immediately to hospital.
- Immediate medical attention is required.
- Medical supervision for minimum 48 hours.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

5.1.1. Suitable extinguishing media

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

5.1.2. Unsuitable extinguishing media

- Water may be ineffective.

5.2. Special hazards arising from the substance or mixture

- The product is not flammable.
- Not combustible.
- Reacts violently with water.
- Gives off hydrogen by reaction with metals.

5.3. Advice for firefighters

- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.
- Wear chemical resistant oversuit
- Cool containers / tanks with water spray.
- 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

6.1.1. Advice for non-emergency personnel

- Prevent further leakage or spillage if safe to do so.
- Keep away from incompatible products.

6.1.2. Advice for emergency responders

- Evacuate personnel to safe areas.
- Keep people away from and upwind of spill/leak.
- Ventilate the area.
- Wear suitable protective clothing.

6.2. Environmental precautions

- Should not be released into the environment.
- Do not flush into surface water or sanitary sewer system.
- If the product contaminates rivers and lakes or drains inform respective authorities.

6.3. Methods and materials for containment and cleaning up

- Sweep up and shovel into suitable containers for disposal.
- Avoid dust formation.
- Keep in properly labelled containers.
- Keep in suitable, closed containers for disposal.
- Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

- Used in closed system
- When diluting, always add the product to water. Never add water to the product.
- Use only equipment and materials which are compatible with the product.
- Keep away from Incompatible products.
- To avoid thermal decomposition, do not overheat.
- Preferably transfer by pump or gravity.

7.2. Conditions for storage, including incompatibilities

7.2.1. Storage

- Store in original container.
- Keep in a well-ventilated place.
- Keep in a dry place.
- Keep in properly labelled containers.
- Keep container closed.
- Avoid dust formation.
- Keep away from Incompatible products.

7.2.2. Packaging material

7.2.2.1. Suitable material

- Stainless steel
- Polyethylene
- Paper + PE.

7.2.2.2. Unsuitable material

- no data available

7.3. Specific end uses

- For further information, please contact: Supplier

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Exposure Limit Values

Sodium hydroxide

- UK. EH40 Workplace Exposure Limits (WELs) 2007
  Short term exposure limit = 2 mg/m3
- US. ACGIH Threshold Limit Values 12 2010
  Ceiling Limit Value = 2 mg/m3

8.1.2. Other information on limit values

8.1.2.1. Derived No Effect Level / Derived minimal effect level

- Workers, Inhalation, Chronic exposure, 1 mg/m3 , Local effects
- Consumers, Inhalation, Chronic exposure, 1 mg/m3 , Local effects

8.2. Exposure controls

8.2.1. Appropriate engineering controls

- Ensure adequate ventilation.

- Apply technical measures to comply with the occupational exposure limits.

8.2.2. Individual protection measures

8.2.2.1. Respiratory protection
- In the case of dust or aerosol formation use respirator with an approved filter.
- Recommended Filter type: P2

8.2.2.2. Hand protection
- Impervious gloves
- Suitable material: PVC, Neoprene, Natural Rubber, butyl-rubber
- Unsuitable material: Leather

8.2.2.3. Eye protection
- Chemical resistant goggles must be worn.

8.2.2.4. Skin and body protection
- Chemical resistant apron
- Apron/boots of PVC, neoprene in case of dusts.

8.2.2.5. Hygiene measures
- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Take off contaminated clothing and shoes immediately.
- Handle in accordance with good industrial hygiene and safety practice.

8.2.3. Environmental exposure controls
- Dispose of rinse water in accordance with local and national regulations.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

9.1.1. General Information

Appearance	Solid form, crystalline, strongly hygroscopic, flakes, bales, microgranules
Colour	white
Odour	odourless
Molecular Weight	40.01 g/mol

9.1.2. Important health safety and environmental information

pH	> 13
pKa	No data
Melting point/freezing point	318.4 °C, Pressure: 101.3 kPa
Boiling point/boiling range	1,388 °C, Pressure: 101.3 kPa
Flash point	not applicable
Evaporation rate	not applicable
Flammability (solid, gas)	The product is not flammable.
Flammability	not applicable
Explosive properties	Not explosive, See section 10.
Vapour pressure	1 hPa, at 739 °C
Vapour density	no data available
Relative density	2.13, at 20 °C
Bulk density	1.14 kg/m3, at 20 °C
Solubility(ies)	420 g/l, Water, at 0 °C 1,100 g/l, Water, at 20 °C 3,470 g/l, Water, at 100 °C
Solubility/qualitative	soluble, Alcohol (Glycerol)
Partition coefficient: n-	No data

octanol/water

- **Autoignition temperature** no data available
- **Decomposition temperature** no data available
- **Viscosity** not applicable
- **Oxidizing properties** Non oxidizer

9.2. Other information

- Granulometry 0.8 mm, Mean diameter

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

- Potential for exothermic hazard
- May be corrosive to metals.

10.2. Chemical stability

- Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

- Gives off hydrogen by reaction with metals.
- Exothermic reaction with strong acids.
- Risk of violent reaction.
- Risk of explosion.
- Reacts violently with water.

10.4. Conditions to avoid

- Keep away from direct sunlight.
- To avoid thermal decomposition, do not overheat.
- Exposure to moisture.
- freezing

10.5. Incompatible materials

- Metals, Oxidizing agents, Water, Acids, Aluminium, other light metals and their alloys

10.6. Hazardous decomposition products

- Hydrogen

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Acute toxicity

11.1.1. Acute oral toxicity

- no data available

11.1.2. Acute inhalation toxicity

- no data available

11.1.3. Acute dermal toxicity

- no data available

11.2. Skin corrosion/irritation

- Corrosive

11.3. Serious eye damage/eye irritation

- Corrosive

11.4. Respiratory or skin sensitization

- no observed effect

11.5. Germ cell mutagenicity

- Animal testing did not show any mutagenic effects., In vitro tests did not show mutagenic effects

11.6. Carcinogenicity

- no data available

11.7. Reproductive toxicity

- Effect on fertility, foetotoxic effect, no observed effect

11.8. Specific target organ toxicity - single exposure

- Inhalation, Remarks: Corrosive
- Oral, Remarks: Corrosive
- Dermal, Remarks: Corrosive

11.9. Specific target organ toxicity - repeated exposure

- Remarks: not applicable

11.10. Aspiration hazard

- no data available

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

- Fishes, various species, LC50, 96 h, 35 - 189 mg/l
- Crustaceans, Ceriodaphnia sp., EC50, 48 h, 40.4 mg/l

12.2. Persistence and degradability

12.2.1. Abiotic degradation

- Air
  Result: neutralization by natural alkalinity
- Water
  Result: ionization/neutralization
  Conditions: pH
- Soil
  Result: ionization/neutralization

12.3. Bioaccumulative potential

- Not relevant

12.4. Mobility in soil

- Water, Soil/sediments
  considerable solubility and mobility
- Soil
  soluble, mobile, ionization/neutralization
- Air, Chemical degradation

12.5. Results of PBT and vPvB assessment

- This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
- This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects

- no data available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Dilute with plenty of water.
- Solutions with high pH-value must be neutralized before discharge.
- Neutralise with acid.
- In accordance with local and national regulations.

13.2. Contaminated packaging

- Where possible recycling is preferred to disposal or incineration.
- Clean container with water.
- Dispose of as unused product.
- In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

14.1. International transport regulations

- **IATA-DGR**

UN number	UN 1823
Class	8
Packing group	II
ICAO-Labels	8 - Corrosive
Proper shipping name	SODIUM HYDROXIDE, SOLID

- **IMDG**

UN number	UN 1823
Class	8
Packing group	II
IMDG-Labels	8 - Corrosive
HI/UN No.	1823
EmS	F-A S-B
Proper shipping name	SODIUM HYDROXIDE, SOLID

- **ADR**

UN number	UN 1823
Class	8
Packing group	II
ADR/RID-Labels	8 - Corrosive
HI/UN No.	80 / 1823
Proper shipping name	SODIUM HYDROXIDE, SOLID

- **RID**

UN number	UN 1823
Class	8
Packing group	II
ADR/RID-Labels	8 - Corrosive
HI/UN No.	80 / 1823
Proper shipping name	SODIUM HYDROXIDE, SOLID

- **ADN**

UN number	UN 1823
Class	8
Packing group	II
ADR/RID-Labels	8 - Corrosive
Proper shipping name	SODIUM HYDROXIDE, SOLID

SECTION 15. REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), as amended
- Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances, as amended
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, as amended
- Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work,as amended

- Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste
- The List of Wastes (Wales) Regulations 2005. 2005 Welsh Statutory Instrument (WSI), number W.148 (1820), 14 July 2005
- The List of Wastes (England) Regulations 2005. 2005 Statutory Instrument (SI), number 895, 6 April 2005, as amended
- EH40/2005. Workplace Exposure Limits, as amended through 1,10, 2007 (WELs) Published by the Health and Safety Executive (HSE). Issued under the Control of Substances Hazardous to Health Regulations - as amended

15.1.1. Notification status

Inventory Information	Status
Toxic Substance Control Act list (TSCA)	- In compliance with inventory
Australian Inventory of Chemical Substances (AICS)	- In compliance with inventory
Canadian Domestic Substances List (DSL)	- In compliance with inventory
Korean Existing Chemicals Inventory (KECI (KR))	- In compliance with inventory
EU list of existing chemical substances (EINECS)	- In compliance with inventory
Japanese Existing and New Chemical Substances (MITI List) (ENCS)	- In compliance with inventory
Inventory of Existing Chemical Substances (China) (IECS)	- In compliance with inventory
Philippine Inventory of Chemicals and Chemical Substances (PICCS)	- In compliance with inventory
New Zealand Inventory of Chemicals (NZIOC)	- In compliance with inventory

15.2. Chemical Safety Assessment

- A Chemical Safety Assessment has been carried out for this substance.
- See Exposure scenario

SECTION 16. OTHER INFORMATION

16.1. Full text of R-phrases referred to under sections 2 and 3

16.1.1. Full text of R-phrases referred to under section 2

R35 - Causes severe burns.

16.2. Other information

- Update
  This data sheet contains changes from the previous version in section(s): 1.1,1.4,4.2,4.3,5.3,8.1,15.2
- Distribute new edition to clients

This SDS is only intended for the indicated country to which it is applicable. The European SDS format compliant with the applicable European legislation is not intended for use nor distribution in countries outside the European Union with the exception of Norway and Switzerland. Safety datasheets applicable in other countries/regions are available upon request. The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.