

SAFETY DATA SHEET

Sodium Hydroxide Solution 5N

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name

Sodium Hydroxide Solution 5N

Other names / Synonyms

Caustic Soda Solution

Product no.

289xxxx

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

Relevant identified uses of the substance or mixture

General purpose solvent.
Restricted to professional users.

Uses advised against

None known.

1.3. Details of the supplier of the safety data sheet

Company and address

Greenfield Global LFS Ireland Ltd.,
IDA Business & Technology Park,
Mountrath Road,
Portlaoise,
Co. Laois,
Ireland
+353 057 867 1400

E-mail

exports@greenfield.com

Revision

02/01/2024

SDS Version

1.0

1.4. Emergency telephone number

The National Poisons Information Centre (NPIC)
Public: +353 (0) 1 809 2166 (7 days a week, 8am- 10pm)
Healthcare professionals: +353 (0) 1 809 2566 (24 h service)
See also section 4 "First aid measures"

SECTION 2: Hazards identification

Classified according to Regulation (EC) No. 1272/2008 (CLP).

2.1. Classification of the substance or mixture

Met. Corr. 1; H290, May be corrosive to metals.
Skin Corr. 1; H314, Causes severe skin burns and eye damage.
Eye Dam. 1; H318, Causes serious eye damage.

2.2. Label elements

Hazard pictogram(s)



Signal word

Danger

Hazard statement(s)

May be corrosive to metals. (H290)

According to EC-Regulation 1907/2006 (REACH), annex II, including changes implemented by EC-Regulation 2020/878

Causes severe skin burns and eye damage. (H314)

Precautionary statement(s)

General

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Prevention

Do not breathe vapour/mist. (P260)

Wear protective gloves/protective clothing/eye protection/face protection. (P280)

Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. (P303+P361+P353)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. (P305+P351+P338)

Storage

Store in a container with a resistant inner liner. (P406)

Disposal

Dispose of contents/container in accordance with local regulation (P501)

Hazardous substances

sodium hydroxide;caustic soda

Additional labelling

Not applicable.

2.3. Other hazards

Additional warnings

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable. This product is a mixture.

3.2. Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
sodium hydroxide;caustic soda	CAS No.: 1310-73-2 EC No.: 215-185-5 REACH: Index No.: 011-002-00-6	15-25%	Met. Corr. 1, H290 Skin Corr. 1A, H314 Skin Corr. 1B, H314 (SCL: 2.00 %) Skin Irrit. 2, H315 (SCL: 0.50 %) Eye Irrit. 2, H319 (SCL: 0.50 %) STOT SE 3, H335	

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

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SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

Skin contact

Flush exposed area with water for a long time - at least 30 minutes. It may be necessary to flush for several hours. Use a comfortable water temperature (20-30 °C). Contact Poison Information/doctor/hospital for further advice on follow-up and treatment.

According to EC-Regulation 1907/2006 (REACH), annex II, including changes implemented by EC-Regulation 2020/878

Upon irritation: rinse with water. In the event of continued irritation, seek medical assistance.

Eye contact

If in eyes: Flush eyes with plenty of water or salt water (20-30 °C) for at least 30 minutes and continue until irritation stops. Remove contact lenses. Make sure you flush under the upper and lower eyelids. Seek medical assistance immediately and continue flushing during transport.

Ingestion

In the case of ingestion, contact a doctor immediately. If the person is conscious, give them water. DO NOT try to induce vomiting unless this is recommended by a doctor. Hold head facing down to prevent vomit from returning to the mouth and throat. Prevent shock by keeping the injured person warm and calm. Initiate immediate resuscitation if breathing stops. If unconscious, roll the injured person into recovery position. Call an ambulance.

Burns

Not applicable.

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

Tissue-damaging effects: This product contains substances with skin corrosive properties. Inhaled vapour or aerosols may produce adverse effects to lungs, irritations and burns in the respiratory organs as well as coughing. Dermal contact and contact with the eye cause irreversible effects.

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

IF exposed or concerned:

Get immediate medical advice/attention.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Some metal oxides

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the National Poisons Information Centre (NPIC) on +353 (0) 1 809 256 (24 h service) in order to obtain further advice.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid direct contact with spilled substances.

Ensure adequate ventilation, especially in confined areas.

Contaminated areas may be slippery.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.

Keep unauthorized persons away from the spill

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid direct contact with the product.

Smoking, drinking and consumption of food is not allowed in the work area.

According to EC-Regulation 1907/2006 (REACH), annex II, including changes implemented by EC-Regulation 2020/878

See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Store in a container with a resistant inner liner.

Recommended storage material

Always store in containers of the same material as the original container.

Storage temperature

Store in tightly closed original container in a dry, cool and well-ventilated place.
Keep away from incompatible materials (see section 10).
Keep away from heat, sparks and open flame.
Take precautionary measures against static discharges.

Incompatible materials

Acids
Oxidizing material
Light metals

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

sodium hydroxide;caustic soda
Short term exposure limit (15 minutes) (mg/m³): 2

2021 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations (2001-2015) and the Safety, Health and Welfare at Work (Carcinogens) Regulations (2001-2019).

DNEL

sodium hydroxide;caustic soda

Duration:	Route of exposure:	DNEL:
Long term – Local effects - General population	Inhalation	1 mg/m ³
Long term – Local effects - Workers	Inhalation	1 mg/m ³

PNEC

No data available.

8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios

There are no exposure scenarios implemented for this product.

Exposure limits

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

Appropriate technical measures

The formation of vapours must be kept at a minimum and below current limit values (see above). Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure eyewash and emergency showers are clearly marked.

Ensure that eyewash stations and safety showers are located within easy reach.

Apply standard precautions during use of the product. Avoid inhalation of vapours.

Hygiene measures

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Pay special attention to hands, forearms and face.

Measures to avoid environmental exposure

Keep damming materials near the workplace. If possible, collect spillage during work.



Individual protection measures, such as personal protective equipment

Generally

Wash contaminated clothing before reuse.
Use only CE marked protective equipment.

Respiratory Equipment

According to EC-Regulation 1907/2006 (REACH), annex II, including changes implemented by EC-Regulation 2020/878

Type	Class	Colour	Standards	
B	Class 2 (medium capacity)	Gray	EN14387	
Skin protection				
Recommended	Type/Category	Standards		
Wear appropriate protection clothing, e.g. coveralls in polypropylene or working clothes in cotton or polyester.	-	-		
Hand protection				
Work situation	Material	Glove thickness (mm)	Breakthrough time (min.)	Standards
In the event of prolonged exposure or high concentrations	Butyl	0,3	> 480	EN374-2, EN374-3, EN388
Eye protection				
Type	Standards			
Wear safety goggles with protective side shields in accordance with standard EN166.	EN 166			

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Colour

Gray, White

Odour / Odour threshold

Almost odourless

pH

14

Density (g/cm³)

-

Relative density

1.515 (25 °C)

Kinematic viscosity

Testing not relevant or not possible due to nature of the product.

Particle characteristics

Testing not relevant or not possible due to nature of the product.

Phase changes

Melting point/Freezing point (°C)

-12 - 10

Softening point/range (waxes and pastes) (°C)

Does not apply to liquids.

Boiling point (°C)

105-140

Vapour pressure

>24 hPa (20 °C)

Relative vapour density

1.38

Decomposition temperature (°C)

Testing not relevant or not possible due to nature of the product.

According to EC-Regulation 1907/2006 (REACH), annex II, including changes implemented by EC-Regulation 2020/878

Data on fire and explosion hazards

Flash point (°C)

Testing not relevant or not possible due to nature of the product.

Flammability (°C)

The material is not combustible.

Auto-ignition temperature (°C)

Testing not relevant or not possible due to nature of the product.

Lower and upper explosion limit (% v/v)

Testing not relevant or not possible due to the nature of the product.

Solubility

Solubility in water

Completely soluble

n-octanol/water coefficient (LogKow)

Testing not relevant or not possible due to the nature of the product.

Solubility in fat (g/L)

Testing not relevant or not possible due to the nature of the product.

9.2. Other information

Evaporation rate (n-butylacetate = 100)

Testing not relevant or not possible due to nature of the product.

Other physical and chemical parameters

No data available.

Molecular Weight (g/mol)

40

Oxidizing properties

Testing not relevant or not possible due to nature of the product.

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

Avoid extremes of temperature.

10.5. Incompatible materials

Strong acids

Strong oxidizing agents

Metal

10.6. Hazardous decomposition products

When heated, vapours/gases hazardous to health may be formed.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Skin sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

According to EC-Regulation 1907/2006 (REACH), annex II, including changes implemented by EC-Regulation 2020/878

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Long term effects

Tissue-damaging effects: This product contains substances with skin corrosive properties. Inhaled vapour or aerosols may produce adverse effects to lungs, irritations and burns in the respiratory organs as well as coughing. Dermal contact and contact with the eye cause irreversible effects.

Endocrine disrupting properties

This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

Other information

None known.

SECTION 12: Ecological information

12.1. Toxicity

Product/substance	sodium hydroxide;caustic soda
Species:	Crustacean, Ceriodaphnia dubia
Duration:	48 hours
Test:	EC50
Result:	40.4 mg/L

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

12.7. Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product is covered by the regulations on hazardous waste.

HP 8 – Corrosive

Dispose of contents/container to an approved waste disposal plant.

Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

EWC code




Not applicable.

Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: Transport information

According to EC-Regulation 1907/2006 (REACH), annex II, including changes implemented by EC-Regulation 2020/878

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
ADR	UN1824	SODIUM HYDROXIDE SOLUTION	Transport hazard class: 8 Label: 8 Classification code: C5 	II	No	Limited quantities: 1 L Tunnel restriction code: (E) See below for additional information.
IMDG	UN1824	SODIUM HYDROXIDE SOLUTION	Transport hazard class: 8 Label: 8 Classification code: C5 	II	No	Limited quantities: 1 L EmS: F-A S-B See below for additional information.
IATA	UN1824	SODIUM HYDROXIDE SOLUTION	Transport hazard class: 8 Label: 8 Classification code: C5 	II	No	See below for additional information.

* Packing group

** Environmental hazards

Additional information

ADR / See Table A, section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.

IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.

IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

This product is within scope of the regulations of transport of dangerous goods.

14.6. Special precautions for user

Not applicable.

14.7. Maritime transport in bulk according to IMO instruments

No data available.

SECTION 15: Regulatory information

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

Restrictions for application

Restricted to professional users.

People under the age of 18 shall not be exposed to this product.

Demands for specific education

No specific requirements.

SEVESO - Categories / dangerous substances

Not applicable.

Additional information

Not applicable.

Sources

Protection of Young Persons (Employment) Act, 1996

Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

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 (CLP).

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).

15.2. Chemical safety assessment

According to EC-Regulation 1907/2006 (REACH), annex II, including changes implemented by EC-Regulation 2020/878

No

SECTION 16: Other information

Full text of H-phrases as mentioned in section 3

H290, May be corrosive to metals.
H314, Causes severe skin burns and eye damage.
H315, Causes skin irritation.
H319, Causes serious eye irritation.
H335, May cause respiratory irritation.

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CE = Conformité Européenne (European conformity)
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EuPCS = European Product Categorisation System
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer (IARC)
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SCL = A specific concentration limit
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Additional information

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP).
The classification of the substance/mixture in regard of skin corrosion and serious eye damage is based on the pH-criterion given by Regulation (EC) No. 1272/2008 (CLP).

The safety data sheet is validated by

EcoOnline

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.
It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety

According to EC-Regulation 1907/2006 (REACH), annex II, including changes implemented by EC-Regulation 2020/878

data sheet cannot be used as a product specification.
Country-language: IE-en