

Product Caustic 5% - 50% SOLN.  
 Revision date 14 September 2022  
 Revision 2



**Safety Data Sheet (SDS)**  
 according to Regulation (EC) No. 1907/2006

**Section 1: Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**

**Product name** Caustic 5% - 50% SOLN.  
**Other means of identification** No information available.

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

**Identified uses** Water treatment - pH adjustment.  
 For professional use only.  
**Uses advised against** Any other purpose.

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

**Supplier** ENVA UK Limited  
 Enviro Building  
 Private Road 4 Colwick Industrial Estate  
 Nottingham NG4 2JT  
 United Kingdom  
 Tel: + 44 01928 513355  
 SDSrequest@enva.com  
**Contact person**

**1.4 Emergency telephone number**

**Emergency telephone** 00353 (0)57 867 8600  
**National emergency telephone number** Members of the public, UK: NHS 111 (England), NHS 24 (Scotland) or NHS Direct (Wales).  
 Healthcare professionals, UK: +44 0344 892 0111.

**Section 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification (EC 1272/2008)**  
 Physical and chemical hazards Me. Corr 1 - H290  
 Human health Skin Corr. 1A - H314  
 Environment Not classified

**2.2 Label elements**

**Label in accordance with (EC) no. 1272/2008**



**Signal word** Danger

**Hazard statements** H290 May be corrosive to metals.  
 H314 Causes severe skin burns and eye damage.

**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.  
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P310 Immediately call a POISON CENTER or doctor/physician.

### 2.3 Other hazards

None known.

## Section 3: Composition/information on ingredients

### 3.1 Substance

Not applicable.

### 3.2 Mixtures

Name	Product identifier	Regulation (EC) No 1272/2008	%
Sodium hydroxide	CAS-No.: 1310-73-2 EC No.: 215-185-5	Skin Corr. 1A - H314, Eye Dam. 1 - H318, Me. Corr 1 - H290	>= 5 - 50%

The full text for all hazard statements are displayed in section 16.

#### Composition comments

The data shown is in accordance with (EC) No 1907/2006, as amended by UK SI 2019/758.  
 Sodium Hydroxide : Specific Concentration Limits = Eye Irrit. 2; H319: 0,5 % <= C < 2 %, Skin Corr. 1A; H314: C >= 5 %, Skin Corr. 1B; H314: 2 % <= C < 5 %, Skin Irrit. 2; H315: 0,5 % <= C < 2 %.

## Section 4: First aid measures

### 4.1 Description of first aid measures

<b>General information</b>	Provide general first aid, rest, warmth and fresh air. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Show this safety data sheet or product label to medical personnel. Chemical burns must be treated by a physician
<b>Inhalation</b>	If this product is inhaled and symptoms occur, move the exposed person to fresh air promptly. Keep person warm and at rest. In case of unconsciousness place patient in recovery position and maintain open airway. If the exposed person is not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Ingestion</b>	Immediately rinse mouth thoroughly with water and provide fresh air. Never give anything by mouth if victim is unconscious, is rapidly losing consciousness or is convulsing. Get medical attention immediately. Do NOT induce vomiting unless directed to do so by medical personnel.
<b>Skin contact</b>	Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Continue to rinse for at least 15 minutes. While rinsing, remove clothing not adhering to the affected area. Get medical attention promptly if symptoms occur after washing.
<b>Eye contact</b>	Do not rub eye. Avoid contaminating unaffected eye. Remove contact lenses if present and easy to do so. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Seek medical attention.

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

<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	Corrosive. Inhalation may cause respiratory irritation. Exposure may cause coughing or wheezing. Risk of delayed pulmonary oedema.
<b>Ingestion</b>	May cause severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. May cause nausea or vomiting.
<b>Skin contact</b>	Corrosive. Causes severe skin burns. Blistering may occur. Can cause slow healing wounds.
<b>Eye contact</b>	Eye contact may produce serious chemical burns. May cause permanent damage.

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

<b>Notes to the physician</b>	Treat symptomatically.
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## Section 5: Firefighting measures

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### 5.1 Extinguishing media

<b>Extinguishing media</b>	Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media</b>	High volume water jet.

### 5.2 Special hazards arising from the substance or mixture

<b>Hazardous combustion products</b>	During fire, toxic gases (CO, CO <sub>2</sub> ) are formed. Gives off hydrogen by reaction with metals. Corrosive gases or vapours.
<b>Unusual fire &amp; explosion hazards</b>	Flammable hydrogen can form when the product contacts metals. Reacts exothermically with water.
<b>Specific hazards</b>	Water used for fire extinguishing, which has been in contact with the product, may be corrosive.

### 5.3 Advice for firefighters

<b>Special fire fighting procedures</b>	Containers close to fire should be removed immediately or cooled with water. Do not stay in the fire zone without self contained breathing apparatus. In order to avoid contact with the skin and eyes, keep a safe distance and wear suitable protective clothing.
<b>Protective equipment for firefighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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## Section 6: Accidental release measures

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### 6.1 Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	Use proper personal protection (refer to Section 8). Evacuate and ventilate area. Eliminate all sources of ignition. Do not touch or walk through spilled material. Avoid inhalation of vapours and contact with skin and eyes.
<b>For emergency responders</b>	Follow safe handling advice and personal protective equipment recommendations for normal use of product.

### 6.2 Environmental precautions

<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.
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### 6.3 Methods and material for containment and cleaning up

<b>Spill clean up methods</b>	Wear appropriate personal protective equipment as specified in Section 8. DO NOT touch spilled material! Ventilate and evacuate the area. Eliminate all ignition sources. Stop leak if possible without risk. Cover drains. Use non - metallic tools/containers for clean up. Absorb spillage with non-combustible, absorbent material - sand. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container. Flush with plenty of water to clean spillage area. Wash thoroughly after dealing with a spillage.
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### 6.4 Reference to other sections

<b>Reference to other sections</b>	See section 1 for emergency contact. For personal protection, see section 8. For waste disposal, see section 13.
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## Section 7: Handling and storage

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### 7.1 Precautions for safe handling

<b>Handling</b>	Wear suitable personal protective equipment, as detailed in Section 8. Avoid inhalation of vapours and contact with skin and eyes. Ensure adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep away from ignition sources. Avoid contact with metals. Do not return product to containers for reuse. Do not mix with other chemicals.
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**7.2 Conditions for safe storage, including any incompatibilities**

<b>Storage precautions</b>	Store in tightly closed original container in a dry, cool and well-ventilated place. Avoid contact with metals. Keep away from incompatible materials (see section 10). Keep away from heat, sparks and open flame. Protect from frost.
<b>Storage class</b>	Corrosive storage. Avoid exposure to low temperatures (T > 15°C).

**7.3 Specific end use(s)**

<b>Specific end use(s)</b>	The identified uses for this product are detailed in Section 1.2.
<b>Usage description</b>	Use only according to directions. Keep container tightly closed and sealed when not in use.

**Section 8: Exposure controls/Personal protection****8.1 Control parameters**

Component	STD	TWA (8 Hrs)	STEL (15mins)	Notes
Sodium hydroxide	WEL		2 mg/m <sup>3</sup>	

**Ingredient comments** Workplace Exposure Limits Guidance Note EH40/2005.

**8.2 Exposure Controls****Protective equipment****Engineering measures**

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Where necessary use lighting and electrical equipment designed for use in atmospheres where flammable vapours are present, and which can direct static electricity by grounding equipment.

**Respiratory equipment**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. (EN 143). Wear a respirator fitted with the following cartridge: Gas filter, type B.

Use respirators and components tested and approved under appropriate government standards such as CEN (EU). Consult manufacturer for specific advice.

**Hand protection**

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374) is recommended. Selection of the glove material depends on consideration of the penetration times, rates of diffusion and degradation, and concentration specific to the workplace. Suggested material: (Suitable materials for longer, direct contact) Butyl rubber. Breakthrough time: > 480 min. Minimum layer thickness: >= 0.35 mm. (Suitable materials for short-term contact or splashes) Nitrile. Breakthrough time: > 480 min. Minimum layer thickness: 0.38 mm. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

**Eye protection**

Use equipment for eye protection tested and approved under appropriate government standards such as EN 166(EU). Goggles/face shield are recommended.

**Other protection**

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Wear appropriate clothing to prevent any possibility of skin contact. Suggested PPE: chemical resistant full-length overalls and boots. The selected clothing must satisfy the European norm standard EN 943.

Use personal protective equipment tested and approved under appropriate government standards such as CE (EU) or UKCA (GB).

**Hygiene measures**

Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. Take off immediately all contaminated clothing. Avoid contact with skin, eyes and clothing.

**Process conditions**

Ensure that eye flushing systems and safety showers are located close by in the work place. Keep container tightly sealed when not in use.

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**Section 9: Physical and chemical properties**


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**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	Liquid.
<b>Colour</b>	Colourless.
<b>Odour</b>	Odourless.
<b>Odour threshold - lower</b>	No information available as testing has not been completed.
<b>Odour threshold - upper</b>	No information available as testing has not been completed.
<b>pH-Value, Conc. Solution</b>	14.00
<b>pH-Value, Diluted solution</b>	No information available as testing has not been completed.
<b>Melting point</b>	12.00 °C
<b>Initial boiling point and boiling range</b>	143.00 °C
<b>Flash point</b>	No information available as testing has not been completed.
<b>Evaporation rate</b>	No information available as testing has not been completed.
<b>Flammability state</b>	The product is not classified as flammable.
<b>Flammability limit - lower(%)</b>	The product is not classified as flammable.
<b>Flammability limit - upper(%)</b>	The product is not classified as flammable.
<b>Vapour pressure</b>	1.20 hPa 20.00 °C
<b>Vapour density (air=1)</b>	No information available as testing has not been completed.
<b>Relative density</b>	The density of sodium hydroxide at 20°C is 2.13 g/cm <sup>3</sup> (Literature data, ECHA)
<b>Bulk density</b>	No information available as testing has not been completed.
<b>Solubility</b>	Completely soluble in water.
<b>Decomposition temperature</b>	No information available as testing has not been completed.
<b>Partition coefficient; n- Octanol/Water</b>	No information available as testing has not been completed.
<b>Auto ignition temperature (°C)</b>	No information available as testing has not been completed.
<b>Viscosity</b>	0.04 Pas 30.00 °C
<b>Explosive properties</b>	Not classified as explosive.
<b>Oxidising properties</b>	The product does not meet the criteria to be classified as oxidising.

**9.2 Other information**

<b>Molecular weight</b>	The product is a mixture, molecular weight data is not required.
<b>Volatile organic compound</b>	No information available as testing has not been completed.
<b>Other information</b>	None noted.

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**Section 10: Stability and reactivity**


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**10.1 Reactivity**

<b>Reactivity</b>	Reacts violently with acids. May be corrosive to metals. Absorbs atmospheric CO <sub>2</sub> . See section 10.3 for further information.
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**10.2 Chemical stability**

**Stability** Stable under normal temperature conditions and recommended use.

**10.3 Possibility of hazardous reactions**

**Hazardous reactions** Violent exothermic reaction with acids. Attacks metals liberating flammable Hydrogen gas.  
**Hazardous polymerisation** Will not polymerise.  
**Polymerisation description** Not applicable.

**10.4 Conditions to Avoid**

**Conditions to avoid** Avoid heat, sparks, open flames and other ignition sources. Avoid prolonged exposure to air - keep container closed. Avoid extremes of temperature.

**10.5 Incompatible materials**

**Materials to avoid** Strong oxidising agents, acids. Avoid contact with metals: Lead. Aluminium. Copper. Tin. Zinc. Bronze. Do not mix with nitrites or nitrite containing compounds.

**10.6 Hazardous decomposition products**

**Hazardous decomposition products** Corrosive gases/vapours. Decomposition may lead to the release of flammable hydrogen gas. In case of fire, toxic gases (CO, CO<sub>2</sub>,) may be formed.

**Section 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No. 1272/2008**

**Toxicological information** No toxicological information for the overall finished product.

**Acute toxicity (Oral LD50)** No information available as testing has not been completed.  
**Acute toxicity (Dermal LD50)** No information available as testing has not been completed.  
**Acute toxicity (Inhalation LD50)** No information available as testing has not been completed.

**Serious eye damage/irritation** Causes serious eye damage.

**Skin corrosion/irritation** The product is classified as a skin corrosion/irritation hazard.

**Respiratory sensitisation** The product is not classified as a respiratory hazard.  
**Skin sensitisation** The product is not classified as a skin sensitisation hazard.

**Germ cell mutagenicity** The product is not classified as a mutagen.

**Carcinogenicity** The product is not classified as a carcinogen hazard.

**Specific target organ toxicity - Single exposure:**  
**STOT - Single exposure** The product is not classified as a single exposure specific target organ toxin.  
**Specific target organ toxicity - Repeated exposure:**  
**STOT - Repeated exposure** The product is not classified as a repeat exposure specific target organ toxin.

**Inhalation** Corrosive. Inhalation may cause respiratory irritation. Exposure may cause coughing or wheezing. Risk of delayed pulmonary oedema.

**Ingestion** May cause severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. May cause nausea or vomiting.

**Skin contact** Corrosive. Causes severe skin burns. Blistering may occur. Can cause slow healing wounds.  
**Eye contact** Eye contact may produce serious chemical burns. May cause permanent damage.  
**Waste management** When handling waste, consideration should be made to the safety precautions applying to handling of the product. Since emptied containers contain product residue, follow label warnings even after container is emptied.

**Routes of entry** Eye and skin contact, ingestion or inhalation.  
**Target organs** Eyes, skin, inhalation and ingestion.

**Aspiration hazards:** The product is not classified as an aspiration hazard.  
**Reproductive toxicity:** The product is not classified as a reproductive hazard.

**11.2 Information on other hazards**

**Information on other hazards** None known.

**Section 12: Ecological information****12.1 Toxicity**

**Acute toxicity - Fish** No information available as testing has not been completed.  
**Acute toxicity - Aquatic invertebrates** No information available as testing has not been completed.  
**Acute toxicity - Aquatic plants** No information available as testing has not been completed.  
**Acute toxicity - Microorganisms** No information available as testing has not been completed.  
**Chronic toxicity - Fish** No information available as testing has not been completed.  
**Chronic toxicity - Aquatic invertebrates** No information available as testing has not been completed.  
**Chronic toxicity - Aquatic plants** No information available as testing has not been completed.  
**Chronic toxicity - Microorganisms** No information available as testing has not been completed.  
**Ecotoxicity** The product components are 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.  
**Eco toxicological information** The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

**12.2 Persistence and degradability**

**Degradability** Not relevant for inorganic substances.  
**Biological oxygen demand** No information available as testing has not been completed.  
**Chemical oxygen demand** No information available as testing has not been completed.

**12.3 Bioaccumulative potential**

**Bioaccumulative potential** Low potential for bioaccumulation.  
**Bioaccumulation factor** No information available as testing has not been completed.  
**Partition coefficient; n-Octanol/Water** No information available as testing has not been completed.

**12.4 Mobility in soil**

**Mobility** Completely soluble in water.

**12.5 Results of PBT and vPvB assessment**

**Results of PBT and vPvB assessment** The product does not contain any PBT or vPvB substances.

**12.6 Endocrine disrupting properties**

**Endocrine disrupting properties** The product does not contain any substances with endocrine disrupting properties at a concentration above or equal to 0.1%.

**12.7 Other adverse effects**

**Other adverse effects** None known.

Name	Acute toxicity (Fish)	Acute toxicity (Aquatic invertebrates)	Acute toxicity (Aquatic plants)
Sodium hydroxide	LC50 96 Hours 45.40mg/l Onchorhynchus mykiss (Rainbow Trout)	LC50 48 Hours 100.00mg/l Daphnia magna	

**Section 13: Disposal considerations**

**Waste management** When handling waste, consideration should be made to the safety precautions applying to handling of the product. Since emptied containers contain product residue, follow label warnings even after container is emptied.

**13.1 Waste treatment methods****Disposal methods**

Dispose of waste and residues in accordance with local authority requirements, and in accordance with all local, national and international regulations. For waste disposal, use a licensed industrial waste disposal agent.

**Section 14: Transport information****14.1 UN number or ID number**

UN no. (ADR)	UN1824
UN no. (IMDG)	UN1824
UN no. (IATA)	UN1824

**14.2 UN proper shipping name**

ADR proper shipping name	SODIUM HYDROXIDE SOLUTION
IMDG proper shipping name	SODIUM HYDROXIDE SOLUTION
IATA proper shipping name	SODIUM HYDROXIDE SOLUTION

**14.3 Transport hazard class(es)**

ADR class	8
IMDG class	8
IATA class	8

**Transport labels****14.4 Packing group**

ADR/RID/ADN packing group	II
IMDG packing group	II
IATA packing group	II

**14.5 Environmental hazards**

ADR	No
IMDG	No
IATA	No

**14.6 Special precautions for user**

EMS	F-A, S-B
Emergency action code	A3 A803
Hazard no. (ADR)	80
Tunnel restriction code	(E)

**14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

**Section 15: Regulatory information****15.1 Safety, health and environmental regulations/Legislation specific for the substance or mixture**

<b>Legislation</b>	REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.  Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019.
<b>Approved code of practice</b>	EH40/2005 Workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended). [Fourth Edition, 2020].

**15.2 Chemical safety assessment**

<b>Chemical safety assessment</b>	No chemical safety assessment has been carried out.
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**Section 16: Other information**

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<b>General information</b>	Workplace Exposure Limits Guidance Note EH40/2005. (Fourth Edition 2020) REACH etc. (Amendment etc.) (EU Exit) Regulations 2020. Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019.
<b>Revision comments</b>	[3]Information updated. [4]Information updated. [8]Information updated. [16]Information updated.
<b>Revision date</b>	14 September 2022
<b>Supersedes date</b>	06 August 2021
<b>Revision</b>	2
<b>Safety data sheet status</b>	Approved.

**Hazard statements in full**

<b>H290</b>	May be corrosive to metals.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H318</b>	Causes serious eye damage.

**Disclaimer**

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use. Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations. The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions. It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations. The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.