



# Safety Data Sheet

SDS no. M002

## CAUSTIC SODA M2

Revision date 11/Dec/2023

Supersedes Date: 08/Oct/2018

Version 6

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** CAUSTIC SODA M2  
**Product code** M002  
**UFI:** QTV0-A0A4-300T-DXWV

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

**Recommended Use** Additive in oilfield applications

**Uses advised against** Consumer use

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

**Supplier**  
Schlumberger Oilfield UK LTD  
Minerva, Manor Royal London Road  
Crawley  
RH10 9BU  
United Kingdom

+44 1293 556655

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

#### National Poison Center Numbers

<b>Austria</b>	+43 1 406 43 43
<b>Bulgaria</b>	+359 2 9154 233
<b>Croatia</b>	+385 1 23 48 342
<b>Cyprus</b>	1401
<b>Denmark</b>	Poison Control Hotline (DK): +45 82 12 12 12
<b>France</b>	ORFILA (INRS): +33 1 45 42 59 59
<b>Italy</b>	CAV "Osp. Pediatrico Bambino Gesù" Dip. Emergenza e Accettazione DEA; Roma: +39 06 68593726 Az. Osp. Univ; Foggia: +39 800183459 Az. Osp. "A. Cardarelli"; Napoli: +39 801-5453333 CAV Policlinico "Umberto I"; Roma: +39 06 49978000 CAV Policlinico "A. Gemelli"; Roma: +39 06 3054343 Az. Osp. "Careggi" U.O. Tossicologia Medica; Firenze: +39 055 7947819 CAV Centro Nazionale di Informazione Tossicologica; Pavia: +39 0382 24444



	Osp. Niguarda Ca' Granda; Milano: +39 02 66101029 Azienda Ospedaliera Papa Giovanni XXII; Bergamo: +39 800883300 Azienda Ospedaliera Integrata Verona; Verona: +39 800011858
Netherlands	NVIC: +31 (0)88 755 8000 : Only for the purpose of informing medical personnel in case of acute intoxications
Norway	Poison information centre: +47 22 59 13 00
Romania	+40 21 318 36 06

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008

##### Health hazards

Skin corrosion/irritation	Category 1 Subcategory 1A
Serious eye damage/eye irritation	Category 1

Environmental hazards Not classified

##### Physical Hazards

Substances/mixtures corrosive to metal	Category 1
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### 2.2 Label elements



#### Signal word

DANGER

#### Hazard Statements

H314 - Causes severe skin burns and eye damage

H290 - May be corrosive to metals

#### Precautionary Statements

P260 - Do not breathe dust

P280 - Wear protective gloves, protective clothing, eye protection

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

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 physician

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

#### Supplementary precautionary statements

P234 - Keep only in original container

P264 - Wash face, hands and any exposed skin thoroughly after handling

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P363 - Wash contaminated clothing before reuse

P390 - Absorb spillage to prevent material damage



P406 - Store in corrosion resistant container with a resistant inner liner

**Contains**

Sodium hydroxide

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria  
Contact with metals may evolve flammable hydrogen gas  
The product reacts with water and will generate heat.

**3. Composition/information on Ingredients****3.1 Substances**

Chemical Name	EC No	CAS No	Weight-%	Component information
Sodium hydroxide	215-185-5	1310-73-2	60-100	Met. Corr. 1 (H290) Skin Corr. 1A (H314) Eye Dam. 1(H318)

**3.2 Mixtures**

Not applicable

**4. First Aid Measures****4.1 First aid measures****Inhalation**

Move the exposed person to fresh air at once. If breathing is difficult, (trained personnel should) give oxygen. If not breathing, give artificial respiration. Seek medical attention at once.

**Ingestion**

Do NOT induce vomiting. Get immediate medical attention. Rinse mouth. Risk of product entering the lungs on vomiting after ingestion. Never give anything by mouth to an unconscious person.

**Skin contact**

Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. 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. Chemical burns must be treated by a physician.

**Eye Contact**

Remove contact lenses, if worn. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get immediate medical attention.

**4.2. Most important symptoms and effects, both acute and delayed****General advice**

Seek medical attention for all burns, regardless how minor they may seem. The severity of the symptoms described will vary dependant of the concentration and the length of



exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

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

<b>Notes to physician</b>	Treat symptomatically.
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**5. Fire-Fighting Measures****5.1 Extinguishing media****Suitable extinguishing media**

Water spray, dry chemical, carbon dioxide (CO<sub>2</sub>), or foam.

**Extinguishing media which must not be used for safety reasons**

Do not use a solid water stream as it may scatter and spread fire.

**5.2. Special hazards arising from the substance or mixture****Unusual fire and explosion hazards**

Contact with metals may evolve flammable hydrogen gas. The product reacts with water and will generate heat. React vigorously and/or explosively with water.

**Hazardous combustion products**

Thermal decomposition can lead to release of toxic and corrosive gases/vapors Sodium oxides.

**5.3 Advice for firefighters****Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

**6. Accidental Release Measures****6.1. Personal precautions, protective equipment and emergency procedures**

Do not get on skin or clothing. Wash thoroughly after handling. Avoid dust formation. Do not breathe dust. Use personal protective equipment. See also section 8.

**6.2 Environmental precautions**



The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and material for containment and cleaning up****Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**

Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Flush area with flooding quantities of water.

**6.4 Reference to other sections**

See section 13 for more information.

## 7. Handling and Storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin or on clothing. Avoid dust formation. Do not breathe dust. Never add water directly to this product - may cause vigorous reaction/boiling. Always dilute by carefully pouring the product into the water. Avoid spills and splashing during use.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Reacts violently with water. Store in original container. Avoid contact with: Metals, Acids.
<b>Storage class</b>	Corrosive storage.
<b>Storage class, TRGS 510, Germany</b>	LGK8BS - Non-combustible corrosive substances (solid)
<b>Packaging materials</b>	Use specially constructed containers only.

**7.3 Specific end uses**

See Section 1.2.

## 8. Exposure Controls/Personal Protection

**8.1 Control parameters****Component Information**

Chemical Name	EU OEL	Austria	Denmark
Sodium hydroxide	Not determined	4 mg/m <sup>3</sup> STEL inhalable fraction,	2 mg/m <sup>3</sup> Ceiling

		8x5 min 2 mg/m <sup>3</sup> TWA inhalable fraction	
<b>Chemical Name</b>	<b>France</b>	<b>Germany</b>	<b>Hungary</b>
Sodium hydroxide	2 mg/m <sup>3</sup> TWA	Not determined	2 mg/m <sup>3</sup> STEL 2 mg/m <sup>3</sup> TWA
<b>Chemical Name</b>	<b>Italy</b>	<b>Netherlands</b>	<b>Norway</b>
Sodium hydroxide	2 mg/m <sup>3</sup> Ceiling	Not determined	2 mg/m <sup>3</sup> Ceiling
<b>Chemical Name</b>	<b>Poland</b>	<b>Portugal</b>	<b>Romania</b>
Sodium hydroxide	1 mg/m <sup>3</sup> STEL NDSCh 0.5 mg/m <sup>3</sup> TWA NDS	2 mg/m <sup>3</sup> Ceiling	Not determined
<b>Chemical Name</b>	<b>Spain</b>	<b>Switzerland</b>	<b>UK</b>
Sodium hydroxide	2 mg/m <sup>3</sup> STEL	2 mg/m <sup>3</sup> STEL inhalable dust 2 mg/m <sup>3</sup> TWA MAK	2 mg/m <sup>3</sup> STEL

#### Europe - REACH Derived No Effect Level (DNEL)

#### Long term exposure local effects

##### Sodium hydroxide

Inhalation

1 mg/m<sup>3</sup>

#### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

#### Engineering Controls

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required. Provide appropriate exhaust ventilation at places where dust is formed.

#### Personal protective equipment

##### Eye protection

Use eye protection according to EN 166, designed to protect against powders and dusts. Wear chemical splash goggles and face shield.

##### Hand protection

Wear gloves according to EN 374 to protect against skin effects from powders  
Impervious gloves made of: Nitrile Rubber PVC  
Break through time >480 minutes  
Glove thickness 0.5 mm  
Frequent change is advisable

##### Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment, Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust), Suitable mask with particle filter P3 (European Norm 143), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

##### Skin and body protection

Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

#### Hygiene Measures

Wash hands before breaks and immediately after handling the product, Remove and wash contaminated clothing before re-use.





### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	Solid	
<b>Appearance</b>	Flakes	
<b>Color</b>	White	
<b>Odor</b>	Odorless	
<b>Property</b>	<b>Values</b>	<b>Remarks</b>
<b>pH</b>	Not applicable	
<b>pH @ dilution</b>	>14	10 g/ 100ml
<b>Melting point</b>	323 °C / 613.4 °F	
<b>Boiling point/range</b>	1388 °C / 2530.4 °F	
<b>Flash point</b>	No information available	
<b>Evaporation rate (BuAc =1)</b>	No information available	
<b>Flammability</b>	Not applicable	
<b>Explosion limits:</b>		
<b>Upper explosion limit</b>	No information available	
<b>Lower explosion limit</b>	No information available	
<b>Vapor pressure</b>	0.1 kPa	@ 739 °C
<b>Relative Vapor Density</b>	>1 (air = 1)	
<b>Specific gravity</b>	No information available	@ 20 °C
<b>Bulk density</b>	1.1 - 2.13 g/cm <sup>3</sup>	
<b>Water solubility</b>	Soluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>	No information available	
<b>Density and/or Relative Density</b>	. 2.1 @ 20 °C	
<b>Explosive properties</b>	Not applicable	
<b>Oxidizing properties</b>	Not applicable	

### 9.2 Other information

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	None

#### Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Corrosive. Corrosive to Metals. Contact with metals may evolve flammable hydrogen gas. Reacts violently with water.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions****Hazardous polymerization**

Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Protect from moisture. Do not add water directly to the product. It may cause a violent reaction. Avoid dust formation.

**10.5 Incompatible materials**

Acids. Metals. Water.

**10.6 Hazardous decomposition products**

See Section 5.2.

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

<b>Inhalation</b>	Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns. Inhaled corrosive substances can lead to a toxic edema of the lungs.
<b>Eye contact</b>	Causes serious eye damage.
<b>Skin contact</b>	Causes severe skin burns.
<b>Ingestion</b>	Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts.
<b>Unknown acute toxicity</b>	Not applicable.

**Toxicology data for the components**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hydroxide	= 325 mg/kg ( Rat )	1350 mg/kg ( Rabbit )	No data available

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.



**Routes of Exposure** Skin contact. Eye contact. Inhalation. Ingestion.

**Routes of entry** Inhalation. Skin contact. Eye contact.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Endocrine disrupting properties** This product does not contain any known or suspected endocrine disruptors.

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) 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. Large amounts will affect pH and harm aquatic organisms

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

#### **Toxicology data for the components**

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Sodium hydroxide	= 45.4 mg/L LC50 Oncorhynchus mykiss 96 h	No information available	No information available

### 12.2 Persistence and degradability

See component information below.

Chemical Name	Persistence and degradability
Sodium hydroxide	Inorganic compound

### 12.3 Bioaccumulative potential

See component information below.

Chemical Name	Bioaccumulation
Sodium hydroxide	Product/Substance is inorganic

### 12.4 Mobility

**Mobility**

Soluble in water. See component information below.

Chemical Name	Mobility
Sodium hydroxide	Soluble in water

**Mobility in soil**

See component information below.

Chemical Name	Mobility in soil
Sodium hydroxide	Not expected to adsorb on soil

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Endocrine disrupting properties.**

This product does not contain any known or suspected endocrine disruptors

**12.7 Other adverse effects**

None known.

**12.8 Additional information**

Key literature references and sources for data. See Section 16 for more information.

**13. Disposal Considerations****13.1 Waste treatment methods****Waste from residues/unused products**

Dispose of in accordance with local regulations.

**Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal.

**EWC Waste Disposal No**

According to the European Waste Catalog, Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used The following Waste Codes are only suggestions: EWC waste disposal No: 16 03 03 - inorganic wastes containing dangerous substances 7091 Inorganic salts and other solids.

**14. Transport information****14.1. UN number**

UN/ID No. (ADR/RID/ADN/ADG)	UN1823
UN No. (IMDG/ANTAQ)	UN1823
UN No. (ICAO/ANAC)	UN1823

**14.2. UN proper shipping name**

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SODIUM HYDROXIDE, SOLID,

**14.3 Hazard class(es)**

ADR/RID/ADN/ADG Hazard class	8
IMDG/ANTAQ Hazard class	8
ICAO/ANAC Hazard class/division	8

**14.4 Packing group**

ADR/RID/ADN/ADG Packing group	II
IMDG/ANTAQ Packing group	II
ICAO/ANAC Packing group	II

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Hazard identification no (ADR)	80
EmS (IMDG)	F-A, S-B
Emergency Action Code (EAC)	2W
Tunnel restriction code	(E)

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

Please contact [SDS@slb.com](mailto:SDS@slb.com) for info regarding transport in Bulk.



## 15. Regulatory Information

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

This safety data sheet complies with the requirements of:  
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008  
Commission Regulation (EU) No 2020/878 of 18 June 2020  
Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

#### Great Britain

UK REACH Regulations SI 2019/758 of 31 January 2019

#### Dangerous substance category per Seveso Directive (2012/18/EU)

This product does not contain substances listed under Dangerous substance category per Seveso Directive (2012/18/EU)

#### Netherlands

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

#### Germany

Chemicals act

Hazardous substances ordinance

Regulations governing systems for handling substances hazardous to waters

Germany, Water Endangering  
Classes (VwVwS)

Hazardous to water/Class 1

Technical Rules for Hazardous  
Substances (TRGS)

TRGS 220 National aspects when compiling safety data sheets  
TRGS 510 Storage of hazardous substances in non stationary containers  
TRGS 900 Occupational exposure limits

#### International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

#### Europe - REACH

All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006. For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

Denmark Pr. no: 1114430

### 15.2 Chemical Safety Report

No information available



## 16. Other Information

**Prepared by** Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam

**Supersedes Date:** 08/Oct/2018

**Revision date** 11/Dec/2023

**Version** 6

**This SDS has been revised in the following section(s)** All sections. No changes with regard to classification have been made.

### Key literature references and sources for data

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

### Training Advice

Do not handle until all safety precautions have been read and understood

Follow general hygiene considerations recognized as common good workplace practices

### HMIS classification

Health	3
Flammability	0
Physical hazard	1
PPE	X

### Full text of H-Statements referred to under sections 2 and 3

H314 - Causes severe skin burns and eye damage

H290 - May be corrosive to metals

H318 - Causes serious eye damage

### Key or legend to abbreviations and acronyms used in the safety data sheet

CAS (Chemical Abstracts Service)

HMIS III: Hazardous Materials Identification System

Persistent, Bioaccumulative, and Toxic (PBT) Chemicals

Very Persistent and very Bioaccumulative (vPvB) Chemicals

Predicted No Effect Concentration (PNEC)

Derived No Effect Level (DNEL)

EC50 (effective concentration)

LC50 (lethal concentration)

LD50 (lethal dose)

STEL (Short Term Exposure Limit)

TWA (time-weighted average)

### Disclaimer

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