

## SAFETY DATA SHEET

Creation Date 29-May-2013

Revision Date 26-Mar-2024

Revision Number 4

### 1. Identification

**Product Name** Sodium methoxide  
**Cat No. :** L05673  
**CAS No** 124-41-4  
**Synonyms** Sodium methylate  
**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

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

##### Company

Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757

##### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### **Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable solids	Category 1
Self-heating substances and mixtures	Category 1
Corrosive to metals	Category 1
Acute oral toxicity	Category 4
Skin Corrosion/Irritation	Category 1 A
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	
Combustible dust	Yes

#### Label Elements

**Signal Word**  
Danger

**Hazard Statements**

Flammable solid  
May form combustible dust concentrations in air  
Self-heating; may catch fire  
May be corrosive to metals  
Harmful if swallowed  
Causes severe skin burns and eye damage  
May cause respiratory irritation

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Do not breathe dust/fume/gas/mist/vapors/spray  
Wear protective gloves/protective clothing/eye protection/face protection  
Use only outdoors or in a well-ventilated area  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting equipment  
Keep cool. Protect from sunlight  
Keep only in original container

**Response**

Immediately call a POISON CENTER or doctor/physician

**Inhalation**

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

**Skin**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse

**Eyes**

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

**Ingestion**

Rinse mouth  
Do NOT induce vomiting

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Spills**

Absorb spillage to prevent material damage

**Storage**

Store locked up  
Store in a well-ventilated place. Keep container tightly closed  
Store away from other materials  
Store in corrosive resistant polypropylene container with a resistant inliner  
Store in a dry place

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Reacts violently with water

### 3. Composition/Information on Ingredients

Component	CAS No	Weight %
Sodium methoxide	124-41-4	95
Sodium hydroxide	1310-73-2	< 2
Sodium carbonate	497-19-8	< 2

#### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms and effects</b>	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
<b>Notes to Physician</b>	Treat symptomatically

#### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Dry chemical, soda ash, lime or sand.
<b>Unsuitable Extinguishing Media</b>	DO NOT USE WATER, FOAM OR CO <sub>2</sub>
<b>Flash Point</b>	No information available
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	70 °C / 158 °F
<b>Explosion Limits</b>	
<b>Upper</b>	36.0 vol %
<b>Lower</b>	7.3 vol %
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### Specific Hazards Arising from the Chemical

Flammable. Corrosive material. Reacts violently with water. Risk of ignition. Dust can form an explosive mixture with air. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

#### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Sodium oxides.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### NFPA

<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
3	3	2	W

## 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Evacuate personnel to safe areas. Remove all sources of ignition. Avoid dust formation. Take precautionary measures against static discharges. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.
<b>Environmental Precautions</b>	Avoid release to the environment. See Section 12 for additional Ecological Information.
<b>Methods for Containment and Clean Up</b>	Remove all sources of ignition. Do not expose spill to water. Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

<b>Handling</b>	Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not breathe (dust, vapor, mist, gas). Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Use spark-proof tools and explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not allow contact with water.
<b>Storage.</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Keep away from water or moist air. Keep under nitrogen. Flammables area. Corrosives area. Incompatible Materials. Acids. Strong oxidizing agents. Metals.

## 8. Exposure controls / personal protection

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Sodium hydroxide	Ceiling: 2 mg/m <sup>3</sup>	(Vacated) Ceiling: 2 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists  
 OSHA - Occupational Safety and Health Administration  
 NIOSH: NIOSH - National Institute for Occupational Safety and Health

<b>Engineering Measures</b>	Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location.
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### Personal Protective Equipment

<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
<b>Recommended Filter type:</b>	Particulates filter conforming to EN 143.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Powder Solid
<b>Appearance</b>	Light yellow
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	13 (@ 20 ) 5g/l aq.sol. (20°C)
<b>Melting Point/Range</b>	126 °C / 258.8 °F
<b>Boiling Point/Range</b>	No information available
<b>Flash Point</b>	No information available
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid,gas)</b>	No information available
<b>Flammability or explosive limits</b>	
<b>Upper</b>	36.0 vol %
<b>Lower</b>	7.3 vol %
<b>Vapor Pressure</b>	50 mmHg @ 20 °C
<b>Vapor Density</b>	Not applicable
<b>Specific Gravity</b>	No information available
<b>Solubility</b>	Reacts violently with water
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	70 °C / 158 °F
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	Not applicable
<b>Molecular Formula</b>	C H3 Na O
<b>Molecular Weight</b>	54.02

## 10. Stability and reactivity

<b>Reactive Hazard</b>	Yes
<b>Stability</b>	Water reactive. Moisture sensitive. Air sensitive.
<b>Conditions to Avoid</b>	Temperatures above 65°C. Keep away from open flames, hot surfaces and sources of ignition. Exposure to air. Incompatible products. Exposure to moist air or water.
<b>Incompatible Materials</b>	Acids, Strong oxidizing agents, Metals
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Sodium oxides
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	Reacts violently with water.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

#### Oral LD50

Category 4. ATE = 300 - 2000 mg/kg.

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium methoxide	1687 mg/kg ( Rat )	>2000 mg/kg ( Rat )	Not listed
Sodium hydroxide	LD50 = 325 mg/kg ( Rat )	LD50 = 1350 mg/kg ( Rabbit )	Not listed
Sodium carbonate	2800 mg/kg ( Rat )	> 2000 mg/kg (rabbit)	2.3 mg/l 2h (Rat)

**Toxicologically Synergistic** No information available

#### Products

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** Causes burns by all exposure routes

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Sodium methoxide	124-41-4	Not listed				
Sodium hydroxide	1310-73-2	Not listed				
Sodium carbonate	497-19-8	Not listed				

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

This product contains the following substance(s) which are hazardous for the environment. Reacts with water so no ecotoxicity data for the substance is available.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Sodium hydroxide	-	LC50: = 45.4 mg/L, 96h static (Oncorhynchus mykiss)	-	-
Sodium carbonate	Not listed	Lepomis macrochirus: LC50: 300 mg/L/96h Gambusia affinis: LC50: 740 mg/L/96h	-	EC50: = 265 mg/L, 48h (Daphnia magna)

**Persistence and Degradability** Reacts violently with water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Is not likely mobile in the environment.

Component	log Pow
Sodium methoxide	-0.75

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No

UN1431

**Proper Shipping Name** SODIUM METHYLATE  
**Hazard Class** 4.2  
**Subsidiary Hazard Class** 8  
**Packing Group** II

**TDG**

**UN-No** UN1431  
**Proper Shipping Name** SODIUM METHYLATE MIXTURE  
**Hazard Class** 4.2  
**Subsidiary Hazard Class** 8  
**Packing Group** II

**IATA**

**UN-No** UN1431  
**Proper Shipping Name** SODIUM METHYLATE MIXTURE  
**Hazard Class** 4.2  
**Subsidiary Hazard Class** 8  
**Packing Group** II

**IMDG/IMO**

**UN-No** UN1431  
**Proper Shipping Name** SODIUM METHYLATE MIXTURE  
**Hazard Class** 4.2  
**Subsidiary Hazard Class** 8  
**Packing Group** II

## 15. Regulatory information

**United States of America Inventory**

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Sodium methoxide	124-41-4	X	ACTIVE	-
Sodium hydroxide	1310-73-2	X	ACTIVE	-
Sodium carbonate	497-19-8	X	ACTIVE	-

**Legend:**

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical  
Substances & Mixtures, Under TSCA Section 6(h) (PBT)**

Not applicable

**TSCA 12(b)** - Notices of Export

Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Sodium methoxide	124-41-4	X	-	204-699-5	X	X	X	X	X	KE-23196
Sodium hydroxide	1310-73-2	X	-	215-185-5	X	X	X	X	X	KE-31487
Sodium carbonate	497-19-8	X	-	207-838-8	X	X	X	X	X	KE-31380

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Sodium methoxide	X	1000 lb	-	-
Sodium hydroxide	X	1000 lb	-	-

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Sodium methoxide	1000 lb	-	1000 lb 454 kg
Sodium hydroxide	1000 lb	-	1000 lb 454 kg

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium methoxide	X	X	X	-	-
Sodium hydroxide	X	X	X	-	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH**

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Sodium methoxide	124-41-4	-	Use restricted. See item 75. (see link for restriction details)	-

Sodium hydroxide	1310-73-2	-	Use restricted. See item 75. (see link for restriction details)	-
Sodium carbonate	497-19-8	-	Use restricted. See item 75. (see link for restriction details)	-

**REACH links**

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Sodium methoxide	124-41-4	Listed	Not applicable	Not applicable	Not applicable
Sodium hydroxide	1310-73-2	Listed	Not applicable	Not applicable	Not applicable
Sodium carbonate	497-19-8	Listed	Not applicable	Not applicable	Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

**Other International Regulations**

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Sodium methoxide	124-41-4	Not applicable	Not applicable	Not applicable	Not applicable
Sodium hydroxide	1310-73-2	Not applicable	Not applicable	Not applicable	Annex I - Y35
Sodium carbonate	497-19-8	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

**Prepared By** Health, Safety and Environmental Department  
 Email: chem.techinfo@thermofisher.com  
 www.thermofisher.com

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**Print Date** 26-Mar-2024  
**Revision Summary** New emergency telephone response service provider.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text

**End of SDS**