

# Sodium

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
 Date of issue: 02/29/2016 Version: 1.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Substance  
 Name : Sodium  
 CAS No : 7440-23-5

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

Use of the substance/mixture : Synthesis intermediate

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

MSSA Company  
 701 Brazos Street, Suite 1050  
 Austin, Texas  
 USA 78701

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
USA	CHEMTREC	2900 Fairview Park Drive Falls Church, VA 22042-4513	1-800-424-9300 1-703-527-3887 (Collect)	CHEMTREC Acct. Name: MSSA CHEMTREC Acct # 14341

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Water-react. 1 H260 - In contact with water releases flammable gases which may ignite spontaneously  
 Skin Corr. 1B H314 - Causes severe skin burns and eye damage

Full text of H-statements: see section 16

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



GHS02

GHS05

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H260 - In contact with water releases flammable gases which may ignite spontaneously  
 H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) :

P223 - Do not allow contact with water  
 P231+P232 - Handle under inert gas. Protect from moisture  
 P260 - Do not breathe mist, spray, vapors  
 P264 - Wash hands, forearms and face thoroughly after handling  
 P280 - Wear protective gloves, protective clothing, eye protection, face protection  
 P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
 P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
 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 doctor  
 P363 - Wash contaminated clothing before reuse  
 P402+P404 - Store in a dry place. Store in a closed container  
 P405 - Store locked up  
 P501 - Dispose of contents/container to an approved waste disposal plant

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Name	Product identifier	%	GHS-US classification
Sodium	(CAS No) 7440-23-5	99.7 - 99.9	Water-react. 1, H260 Skin Corr. 1B, H314

Full text of H-statements: see section 16

#### 3.2. Mixture

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : In case of inhalation of fumes : Move the affected person away from the contaminated area and into the fresh air. If breathing is difficult, give oxygen. If breathing stops, give artificial respiration. Call a doctor.
- First-aid measures after skin contact : Immediately remove contaminated clothing or footwear. Rinse immediately with plenty of water (for at least 15 minutes). If skin irritation occurs: Get medical advice/attention. In case of liquid sodium projection, remove as much sodium as possible from the skin using a non-cutting instrument such as a spatula. Rinse thoroughly with water for at least 20 minutes. See a doctor.
- First-aid measures after eye contact : Remove immediately all sticky substance. Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do. Continue rinsing. Always consult an eye specialist, even if there are no immediate symptoms.
- First-aid measures after ingestion : Not expected to be a primary route of exposure. Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth. Drink plenty of water. Call a doctor.

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

- Symptoms/injuries after skin contact : Burns.
- Symptoms/injuries after eye contact : Burns.
- Symptoms/injuries after ingestion : Vomiting. Diarrhea. Disturbances of consciousness. Abdominal pain.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. If possible, smother the fire using dry mineral products such as anhydrous sodium carbonate, dry salt (NaCl), dry sand, etc.
- Unsuitable extinguishing media : Water. Carbon dioxide. Foam. Halogens.

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

- Reactivity : Reacts violently in contact with water (release of hydrogen and soda). The liquid sodium can ignite spontaneously under the action of humid air.

#### 5.3. Advice for firefighters

- Firefighting instructions : Protect from water projections. Clear the danger area. Move containers away from the fire area if this can be done without risk. Contain the extinguishing fluids by bunding. Be careful of flashback of fire.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Avoid contact of substance with water. No flames, no sparks. Eliminate all sources of ignition. Clear the danger area.

##### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Do not allow product to spread into the environment. Do not allow to enter drains or water courses.

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### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Cover with: Anhydrous sodium carbonate. Dry sand. Collect the product in a clean, dry container lined with anhydrous sodium carbonate or dry salt (NaCl). Cover with the same materials.

Other information : Dispose of contaminated materials in accordance with current regulations.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin, eyes and clothing. The work area must be dry. Ban water in the buildings.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep the container hermetically sealed. Store in dry, cool, well-ventilated area. Keep away from any flames or sparking source. Ban water in the buildings.

Incompatible materials : Water, humidity. Combustible materials. Oxidizing materials.

Packaging materials : UN and DOT approved containers and packaging.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Appropriate engineering controls : Fumes extraction at source. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection : Protective gloves. The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN 374. Breakthrough time : refer to the recommendations of the supplier. Liquid form: Protective gloves insulated against heat. (EN 407 or equivalent).

Eye protection : Safety glasses (EN166). Face shield or face protection when handling liquid sodium. Material : Polycarbonate.

Skin and body protection : Chemically protective clothing (type 6) according to standard NF EN13034. Safety foot-wear. Protective helmet. If there is a risk of liquid being splashed : Wear fire/flame resistant/retardant clothing. Material : Nomex 3A.

Respiratory protection : In the event of insufficient ventilation: filtering face piece P3. Air-supplying respirator if O<sub>2</sub> less than or equal to 17% or greater than or equal to 23%.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Metal.
Colour	: Silver grey
Odour	: odourless
Odour threshold	: No data available
pH	: Not applicable
Melting point	: 97.85 °C (1013 hPa)
Freezing point	: No data available
Boiling point	: 881.45 °C (1013 hPa)
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Explosive properties	: Not applicable.
Oxidising properties	: Not applicable.

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Vapour pressure	: No data available
Relative density	: 0.97 (20 °C)
Relative vapour density at 20 °C	: No data available
Molecular mass	: ≈ 22.98977 g/mol
Solubility	: Soluble in ammonia. Water: Reacts violently with water
Log Pow	: No data available
Auto-ignition temperature	: 115 °C
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.684 cP (104 °C)

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts violently in contact with water (release of hydrogen and soda). The liquid sodium can ignite spontaneously in humid air.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

In contact with water releases flammable gases which may ignite spontaneously.

### 10.4. Conditions to avoid

Liquid product : Air contact. Water, humidity.

### 10.5. Incompatible materials

Oxidation agents. Acids. Halogenated compounds. Carbon oxides (CO, CO<sub>2</sub>). Ammonia. Water.

### 10.6. Hazardous decomposition products

On contact with water : Hydrogen. Soda.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: Not applicable
Serious eye damage/irritation	: Not classified pH: Not applicable
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after skin contact	: Burns.
Symptoms/injuries after eye contact	: Burns.
Symptoms/injuries after ingestion	: Vomiting. Diarrhea. Disturbances of consciousness. Abdominal pain.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Before neutralisation the alkalinity of the product may represent a danger to aquatic organisms.

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### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of in accordance with relevant local regulations. Heat treatment. Treatment with dry steam for contaminated items.

Additional information : Packaging contaminated by the product : Recycle or dispose of in compliance with current legislation.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : RQ, UN1428 Sodium, 4.3, I  
Reportable Quantity (RQ) : 10 Lbs.  
UN-No.(DOT) : UN1428  
Proper Shipping Name (DOT) : Sodium  
Transport hazard class(es) (DOT) : 4.3 - Class 4.3 - Dangerous when wet material 49 CFR 173.124  
Hazard labels (DOT) : 4.3 - Dangerous when wet



Packing group (DOT) : I - Great Danger  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 211  
DOT Packaging Bulk (49 CFR 173.xxx) : 244

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DOT Special Provisions (49 CFR 172.102)	: A7 - Steel packaging must be corrosion-resistant or have protection against corrosion. A8 - For combination packaging, if glass inner packaging (including ampoules) are used, they must be packed with cushioning material in tightly closed metal receptacles before placing in outer packaging. A19 - Combination packaging consisting of outer fiber drums or plywood drums, with inner plastic packaging, are not authorized for transportation by aircraft. A20 - Plastic bags as inner receptacles of combination packaging are not authorized for transportation by aircraft. B9 - Bottom outlets are not authorized. B48 - Portable tanks in sodium metal service may be visually inspected at least once every 5 years instead of being retested hydrostatically. Date of the visual inspection must be stenciled on the tank near the other required markings. B68 - Sodium must be in a molten condition when loaded and allowed to solidify before shipment. Outage must be at least 5 percent at 98 C (208 F). Bulk packaging must have exterior heating coils fusion welded to the tank shell which have been properly stress relieved. The only railcar tanks authorized are Class DOT 105 railcar tanks having a test pressure of 2,069 kPa (300 psig) or greater. IB4 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N). IP1 - IBCs must be packed in closed freight containers or a closed transport vehicle. N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material. T9 - 4 6 mm Normal..... Prohibited TP7 - The vapor space must be purged of air by nitrogen or other inert gases. TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter. TP46 - Portable tanks in sodium metal service are not required to be hydrostatically retested.
DOT Packaging Exceptions (49 CFR 173.xxx)	: None
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 15 kg
DOT Vessel Stowage Location	: D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.
DOT Vessel Stowage Other	: 52 - Stow separated from acids
Other information	: No supplementary information available.

### TDG

No additional information available

### Transport by sea

UN-No. (IMDG)	: 1428
Proper Shipping Name (IMDG)	: SODIUM
Reportable Quantity	: 10 lbs
Class (IMDG)	: 4.3 - Substances which, in contact with water, emit flammable gases
Packing group (IMDG)	: I - substances presenting high danger
MFAG-No	: 138

### Air transport

UN-No. (IATA)	: 1428
Proper Shipping Name (IATA)	: Sodium
Reportable Quantity	: 10 lbs
Class (IATA)	: 4.3 - Substances which in Contact with Water emit Flammable Gases
Packing group (IATA)	: I - Great Danger

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Sodium (7440-23-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

##### CANADA

##### Sodium (7440-23-5)

WHMIS Classification

Class B Division 6 - Reactive Flammable Material  
Class E - Corrosive Material

#### 15.3. US State regulations

No additional information available

### SECTION 16: Other information

Data sources : CSR (Chemical safety report). ECHA - European Chemical Agency.

Other information : Safety data sheet established by : LISAM SERVICES - TELEGIS  
17, Rue de la Couture F-60400 PASSEL  
Safety Made Easy with [www.lisam.com](http://www.lisam.com).

Full text of H-statements:

Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Water-react. 1	Substances and Mixtures which, in contact with water, emit flammable gases, Category 1
H260	In contact with water releases flammable gases which may ignite spontaneously
H314	Causes severe skin burns and eye damage

HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

Physical : 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

Personal Protection : E  
E - Safety glasses, Gloves, Dust respirator

SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*