



# Sodium Formate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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### SECTION 1: Identification

#### 1.1. Identification

Product form : Substance  
Substance name : Sodium Formate  
CAS-No. : 141-53-7  
Formula :  $\text{CHNaO}_2$

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Chemical intermediate  
Reducing agent  
Preservative

#### 1.3. Supplier

##### Manufacturer

Jost Chemical Co.  
8150 Lackland Rd.  
Saint Louis, Missouri 63114  
T 314-428-4300 - F 314-428-4366  
[sds@jostchemical.com](mailto:sds@jostchemical.com) - [www.jostchemical.com](http://www.jostchemical.com)

#### 1.4. Emergency telephone number

Emergency number : For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident  
Call CHEMTREC Day or Night  
United States and Canada: 1-800-424-9300 / +1 703-527-3887  
Global: +1 703-741-5970

### SECTION 2: Hazard(s) identification

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

##### GHS-US classification

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labeling

No labeling applicable

#### 2.3. Other hazards which do not result in classification

No additional information available

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

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Sodium Formate (Main constituent)	(CAS-No.) 141-53-7	100	Not classified

Full text of hazard classes and H-statements: see section 16

#### 3.2. Mixtures

Not applicable

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

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First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Rinse with water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists. Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Call Poison Information Centre ( <a href="http://www.big.be/antigif.htm">www.big.be/antigif.htm</a> ). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Not irritant to skin. Practically non-toxic by inhalation (LC50 inh, rat > 5 mg/l/4h). Not irritant to eyes.
Symptoms/effects after inhalation	: AFTER INHALATION OF DUST: Coughing. Slight irritation.
Symptoms/effects after skin contact	: No effects known.
Symptoms/effects after eye contact	: No effects known.
Symptoms/effects after ingestion	: No effects known.
Chronic symptoms	: Red skin. Dry skin.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Quick-acting ABC powder extinguisher. Class A foam extinguisher. Water (quick-acting extinguisher, reel). Water. Class A foam. Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: DIRECT FIRE HAZARD: Not easily combustible. Non-flammable. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD: Heating increases the fire hazard.
Explosion hazard	: DIRECT EXPLOSION HAZARD: Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark. Reactions with explosion hazards: see "Reactivity Hazard".
Reactivity	: Reacts with (strong) oxidizers: (increased) risk of fire/explosion.

### 5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighborhood close doors and windows.
Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus. 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

Protective equipment	: Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Reactivity hazard: compressed air/oxygen apparatus. Reactivity hazard: gas-tight suit.
Emergency procedures	: Ventilate spillage area. Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.
Measures in case of dust release	: In case of dust production: keep upwind. Dust production: have neighborhood close doors and windows. In case of dust production: stop engines and no smoking. In case of dust production: no naked flames or sparks. Dust: spark-/explosion proof appliances/lighting equipment.

#### 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".
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### 6.2. Environmental precautions

Avoid release to the environment.

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

- For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Provide equipment/receptacles with earthing. Powdered form: no compressed air for pumping over spills. If reacting: dilute toxic gas/vapor with water spray. Take account of toxic/corrosive precipitation water.
- Methods for cleaning up : Mechanically recover the product. Prevent dust cloud formation. Scoop solid spill into closing containers. Powdered: do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
- Other information : Dispose of materials or solid residues at an authorized site.

### 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. Wear personal protective equipment. Avoid raising dust. Take precautions against electrostatic charges. Keep away from naked flames/heat. In finely divided state: use spark-/explosion proof appliances. Finely divided: keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Powdered form: no compressed air for pumping over.
- Hygiene measures : Observe normal hygiene standards. Keep container tightly closed. 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

- Technical measures : Ensure that there is a suitable ventilation system. Comply with applicable regulations.
- Storage conditions : Store in a clean, dry warehouse in the original unopened containers. Store in a well-ventilated place. Keep cool.
- Incompatible products : Strong acids. Strong oxidizing agents.
- Storage temperature : < 30 °C
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
- Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. water/moisture.
- Storage area : Store in a cool area. Store in a dry area. Keep container in a well-ventilated place. May be stored under nitrogen. Provide the tank with earthing. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: closing. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: carbon steel. HDPE. LDPE (Low Density Poly Ethylene). tin. stainless steel.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Dust production: dust mask with filter type P1. Gloves. Safety glasses.

#### Materials for protective clothing:

GIVE GOOD RESISTANCE: butyl rubber. PVC

#### Hand protection:

Gloves

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### Eye protection:

Safety glasses. In case of dust production: protective goggles. Safety glasses

### Skin and body protection:

Protective clothing

### Respiratory protection:

Dust production: dust mask with filter type P1

### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Granular solid.
Color	: Colorless to white
Odor	: Mild odor Characteristic odor
Odor threshold	: No data available
pH	: 7 - 9 (5 %)
Melting point	: 258 °C
Freezing point	: Not applicable
Boiling point	: decomposes
Flash point	: Not applicable (solid)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: Not applicable
Relative density	: 1.91 (20 °C)
Specific gravity / density	: 1910 kg/m <sup>3</sup> (20 °C)
Molecular mass	: 68.01 g/mol
Solubility	: Soluble in water. Soluble in glycerol. Water: > 1000 g/l (20 °C) Ethanol: 0.066 g/100ml (0 °C)
Log Pow	: -2.3 - -1.9 (Read-across, EU Method A.8: Partition Coefficient, 23 °C)
Auto-ignition temperature	: > 400 °C
Decomposition temperature	: > 411 °C (ASTM E537-02: Standard Test Method for The Thermal Stability Of Chemicals By Differential Scanning Calorimetry, 1013 hPa)
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

VOC content	: 0 %
Other properties	: Hygroscopic.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with (strong) oxidizers: (increased) risk of fire/explosion.

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### 10.2. Chemical stability

Hygroscopic.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Strong acids. Strong oxidizers.

### 10.6. Hazardous decomposition products

Reacts violently with (some) acids: release of corrosive gases/vapors (formic acid). At very high temperature: release of highly flammable gases/vapors (hydrogen).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Sodium Formate (141-53-7)	
LD50 dermal rat	> 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male/female, Experimental value)
ATE US (oral)	11200 mg/kg body weight

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 7 - 9 (5 %)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 7 - 9 (5 %)
Respiratory or skin sensitization	: Not classified (Lack of data)
Germ cell mutagenicity	: Not classified (Lack of data)
Carcinogenicity	: Not classified (Lack of data)
Reproductive toxicity	: Not classified (Lack of data)
Specific target organ toxicity – single exposure	: Not classified (Lack of data)
Specific target organ toxicity – repeated exposure	: Not classified (Lack of data)
Aspiration hazard	: Not classified (Not applicable)
Viscosity, kinematic	: No data available
Potential Adverse human health effects and symptoms	: Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Not irritant to skin. Practically non-toxic by inhalation (LC50 inh, rat > 5 mg/l/4h). Not irritant to eyes.
Symptoms/effects after inhalation	: AFTER INHALATION OF DUST: Coughing. Slight irritation.
Symptoms/effects after skin contact	: No effects known.
Symptoms/effects after eye contact	: No effects known.
Symptoms/effects after ingestion	: No effects known.
Chronic symptoms	: Red skin. Dry skin.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air	: Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Not harmful to crustacea. Not harmful to fishes. Groundwater pollutant. No inhibition of activated sludge. Not harmful to algae. Not harmful to bacteria.

Sodium Formate (141-53-7)	
LC50 fish 1	> 1000 mg/l (EPA OTS 797.1400, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value)

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Sodium Formate (141-53-7)	
EC50 Daphnia 1	> 1000 mg/l (EPA 660/3 - 75/009, 48 h, Daphnia magna, Flow-through system, Fresh water, Experimental value)
ErC50 (algae)	> 1000 mg/l (EPA 600/9-78-018, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value)

### 12.2. Persistence and degradability

Sodium Formate (141-53-7)	
Persistence and degradability	Readily biodegradable in water.
Chemical oxygen demand (COD)	0.21 - 0.24 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

Sodium Formate (141-53-7)	
Log Pow	-2.3 - -1.9 (Read-across, EU Method A.8: Partition Coefficient, 23 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

### 12.4. Mobility in soil

Sodium Formate (141-53-7)	
Surface tension	71 mN/m (20 °C, 1 g/l)
Log Koc	1.49 (log Koc, Read-across, Calculated value)
Ecology - soil	Highly mobile in soil.

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Regional legislation (waste)	: LWCA (the Netherlands): KGA category 03.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Should not be landfilled with household waste. Recycle/reuse. Remove to an authorized incinerator with energy recovery.
Additional information	: Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Not regulated

### Transportation of Dangerous Goods

Proper Shipping Name (Transportation of Dangerous Goods) : Not regulated for transport

### Transport by sea

Proper Shipping Name (IMDG) : Not regulated for transport

### Air transport

Proper Shipping Name (IATA) : Not regulated for transport

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

Sodium Formate (141-53-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### National regulations

No additional information available

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

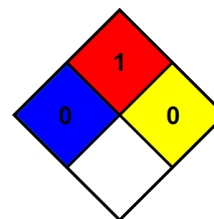
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NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



#### Hazard Rating

Health : 0 Minimal Hazard - No significant risk to health

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

SDS US (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*