

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : Sodium Formate
EC-No. : 205-488-0
CAS-No. : 141-53-7
Formula : CHNaO₂

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

1.2.1. Relevant identified uses

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

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Jost Chemical Co.
8150 Lackland Rd.
63114 Saint Louis, Missouri
T 314-428-4300 - F 314-428-4366
sds@jostchemical.com - www.jostchemical.com

Distributor

JOST CHEMICAL EUROPE SPRL
rue du Bois Portal n° 30/1-3
B - 5300 Andenne - BELGIQUE
T +32 85-552655 - F +32 85-552654
info@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: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
Sodium Formate	(CAS-No.) 141-53-7 (EC-No.) 205-488-0	100

3.2. Mixtures

Not applicable

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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 laboured 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.
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 (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Call a poison center or a doctor if you feel unwell.

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

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. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. 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. Special hazards arising from the substance or mixture

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".
Hazardous decomposition products in case of fire	: Upon combustion: CO and CO2 are formed.

5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood 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 neighbourhood 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-/explosionproof 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.

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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/vapour 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 and ignition sources	: 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.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sodium Formate (141-53-7)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	5000 mg/kg bw/day
Acute - systemic effects, inhalation	350 mg/m ³
Acute - local effects, dermal	16.7 mg/cm ²
Long-term - systemic effects, dermal	5000 mg/kg bw/day
Long-term - local effects, dermal	16.67 mg/cm ²
Long-term - systemic effects, inhalation	353 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	2500 mg/kg bw/day
Acute - systemic effects, inhalation	87 mg/m ³
Acute - local effects, dermal	8.33 mg/cm ²
Long-term - systemic effects, oral	25 mg/kg bw/day
Long-term - systemic effects, inhalation	87 mg/m ³
Long-term - systemic effects, dermal	2500 mg/kg bw/day
Long-term - local effects, dermal	8.33 mg/cm ²

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Sodium Formate (141-53-7)

PNEC (Water)

PNEC aqua (freshwater)	2 mg/l
PNEC aqua (marine water)	0.2 mg/l

PNEC (Sediment)

PNEC sediment (freshwater)	13.4 mg/kg dwt
PNEC sediment (marine water)	1.34 mg/kg dwt

PNEC (Soil)

PNEC soil	1.5 mg/kg dwt
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PNEC (STP)

PNEC sewage treatment plant	2.21 mg/l
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8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

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

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):



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granular solid.
Molecular mass	: 68.01 g/mol
Colour	: Colourless to white.
Odour	: Mild odour. Characteristic odour.
Odour threshold	: No data available
pH	: 7 - 9 (5 %)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 258 °C
Freezing point	: Not applicable
Boiling point	: decomposes
Flash point	: Not applicable (solid)
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)

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Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: Not applicable
Relative density	: 1.91 (20 °C)
Density	: 1910 kg/m ³ (20 °C)
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)
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

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.

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 oxidisers.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Sodium Formate (141-53-7)

LD50 oral	11200 mg/kg (OECD 401: Acute Oral Toxicity, Mouse, Inconclusive, insufficient data)
LD50 dermal rat	> 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male/female, Experimental value)

Causes serious eye damage.	: Not classified pH: 7 - 9 (5 %)
Serious eye damage/irritation	: Not classified pH: 7 - 9 (5 %)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
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.

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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.
Dangerous for the environment	: Not classified
Chronic aquatic toxicity	: Not classified

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)
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 ₂ /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. Results of PBT and vPvB assessment

Sodium Formate (141-53-7)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment 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

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
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Proper Shipping Name (IMDG)	: Not regulated for transport
Proper Shipping Name (IATA)	: Not regulated for transport
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Transport regulations (ADR) : Not subject

Transport by sea

Transport regulations (IMDG) : Not subject

Air transport

Transport regulations (IATA) : Not subject

Inland waterway transport

Transport regulations (ADN) : Not subject

Rail transport

Transport regulations (RID) : Not subject

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Sodium Formate is not on the REACH Candidate List

Sodium Formate is not on the REACH Annex XIV List

VOC content : 0 %

Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations

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

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes:

This sheet was updated (refer to the date at the top of this page).

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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