

**1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING**

**Product identifier:**

**Product Name:** Sodium Formate  
**Chemical Name:** Sodium Formate  
**CAS No:** 141-53-7  
**EC No:** 205-488-0  
**REACH Registration Number:** 01-2119486468-21-XXXX

**Pure substance/mixture:** Substance.

**Relevant identified uses of the substance or mixture and uses advised against:**

**Industrial:** Industrial manufacturing. Manufacture of substances. Distribution and storage. Formulations. Use as a processing aid, as an intermediate, as pH-regulator, in anti-freeze and de-icing products, in drilling fluids, for printing and reproduction of recorded media, for formulation of heat transfer fluids and special lubricants  
Manufacture: of textiles, of leather, of fur.

**Professional:** Use: in liquid detergents, in anti-freeze and de-icing products, in washing and cleaning products, in drilling fluids, in laboratories.

**Consumer:** Use: in liquid detergents.

**Application:** Tanning agent, Bleaching agent, De-icing agent, Raw material for mining (drilling muds and ore flotation).

**Uses advised against:** Not identified.

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### 2. HAZARDS IDENTIFICATION

#### Classification of the substance or mixture:

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

This substance is not classified as dangerous according to regulation (EC) 1272/2008 [CLP].

#### Label elements:

This substance is not classified as dangerous according to regulation (EC) 1272/2008 [CLP].

**Symbols/Pictograms:** Not applicable.

**Signal word:** None.

**Hazard statements:** Not applicable.

**Precautionary Statements:** Not applicable.

**Other hazards:** May be harmful if swallowed. This substance does not meet the criteria for classification as PBT or vPvB.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances:

Chemical Name	EC No	CAS No	REACH Registration Number	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sodium Formate	205-488-0	141-53-7	01-2119486468-21-XXXX	>97	Not classified

*Full text of H- and EUH-phrases: see section 16*

**Additional information:** No information available.

### 4. FIRST AID MEASURES

#### Description of first aid measures:

**Inhalation:** First aid measures not required but get fresh air for personal comfort.

**Skin contact:** First aid measures not required, but wash exposed skin with soap and water for hygienic reasons.

**Eye contact:** First aid measures not required, but rinse opened eye under running water for personal comfort to avoid mechanical irritation.

**Ingestion:** If a large quantity has been ingested or if you feel unwell, get medical advice/attention.

**Most important symptoms and effects, both acute and delayed:** None known.

**Indication of any immediate medical attention and special treatment needed:** Treat symptomatically.

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### 5. FIRE-FIGHTING MEASURES

#### Extinguishing media:

**Suitable extinguishing media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media:** Water with full jet as this can form a dust cloud.

#### Special hazards arising from the substance or mixture:

**Hazardous combustion products:** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

**Advice for firefighters:** No special protective equipment required.

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures:

If dusty conditions wear respiratory protective device with dust filter, gloves and protective clothing for hygienic reasons.

Ensure adequate ventilation, especially in confined areas.

**Environmental precautions:** Do not allow into any sewer, on the ground or into any body of water.  
See Section 12 for additional ecological information.

#### Methods and material for containment and cleaning up:

##### Methods for containment:

**Small spill:** Vacuum or sweep material and place in a disposal container.

**Large spill:** Cover powder spill with plastic sheet or tarp to minimise spreading.  
Vacuum or sweep material and place in a disposal container.

**Methods for cleaning up:** Take up mechanically, placing in appropriate containers for disposal.  
Cover powder spill with plastic sheet or tarp to minimise spreading and keep powder dry.  
Clean contaminated surface thoroughly.  
Use personal protective equipment as required.  
Avoid creating dust.

**Reference to other sections:** See Section 7, 8, 13 for more information.

### 7. HANDLING AND STORAGE

**Precautions for safe handling:** Use personal protection recommended in Section 8.  
Avoid generation of dust.  
Ensure adequate ventilation, especially in confined areas.

**General Hygiene Considerations:** Handle in accordance with good industrial hygiene and safety practice.

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### Conditions for safe storage, including any incompatibilities:

Keep containers tightly closed in a dry, cool and well-ventilated place.  
Very hygroscopic; protect from moisture.

### Specific end use(s):

This information is supplied in the present Safety Data Sheet.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters:

### Exposure Limits:

Keep personal exposure levels below Derived No Effect Level (DNEL) and national exposure limit values (if existing).

### Derived No Effect Level (DNEL) – worker:

Sodium Formate (141-53-7)			
Type	Exposure route	DNEL	Remarks
Acute effects local	Dermal	16.7	mg/cm <sup>2</sup>
Acute effects, systemic	Dermal	5000	mg/kg bw/d
Chronic effects, systemic	Dermal	5000	mg/kg bw/d
Chronic effects, local	Dermal	16.7	mg/cm <sup>2</sup>
Acute effects, systemic	Inhalation	350	mg/m <sup>3</sup>
Chronic effects, systemic	Inhalation	353	mg/m <sup>3</sup>

### Derived No Effect Level (DNEL) – Consumer:

Sodium Formate (141-53-7)			
Type	Exposure route	DNEL	Remarks
Chronic effects, systemic	Oral	25	mg/kg bw/d
Acute effects, systemic	Inhalation	87	mg/m <sup>3</sup>
Chronic effects, systemic	Inhalation	87	mg/m <sup>3</sup>
Acute effects local	Dermal	8.33	mg/cm <sup>2</sup>
Acute effects, systemic	Dermal	2500	mg/kg bw/d
Chronic effects, local	Dermal	8.3	mg/cm <sup>2</sup>
Chronic effects, systemic	Dermal	2500	mg/kg bw/d

### Predicted No Effect Concentration (PNEC):

Sodium Formate (141-53-7)		
Environmental compartment	Predicted No Effect Concentration (PNEC)	Remarks
Freshwater	2	mg/l
Intermittent	10	mg/l
Freshwater sediment	13.4	mg/kg dry weight
Marine Water	0.2	mg/l
Marine sediment	1.34	mg/kg dry weight
Impact on Sewage Treatment	2.21	mg/l
Soil	1.5	mg/kg dry weight

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### Exposure controls:

**Appropriate engineering controls:** Eyewash stations. Ensure adequate ventilation, especially in confined areas.

### Individual protection measures, such as personal protective equipment:

**Eye/face protection:** Wear safety glasses with side shields (or goggles).

**Hand Protection:** Protective gloves not really required. However, we recommend using protective gloves made of rubber. Chloroprene rubber, CR. Nitrile rubber, NBR.

**Skin and body protection:** Normal work clothes for the chemical industry (long legs and sleeves).

**Respiratory protection:** Provide suction extractors if dust is formed or use dust filter mask (P2).

**Environmental exposure controls:** Not applicable.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

**Appearance:** White crystalline powder.

**Odour:** Mild.

**Odour threshold:** Not applicable.

Property	Value	Remarks • Method
pH		Not applicable.
Melting point / freezing point	258 °C	OECD Test No. 102: Melting Point/ Melting Range
Boiling point / boiling range		Decomposes, ASTM E 537-02
Flash point		Not applicable.
Evaporation rate		Not applicable.
Flammability (solid, gas)		Not flammable.
Upper explosive limits:		Not applicable.
Lower explosive limits:		Not applicable.
Vapour pressure	1.0 x 10 <sup>-5</sup> Pa	MPBPWIN v1.43
Vapour density		Not applicable.
Relative density		No information available.
Water solubility		Soluble in water.
Solubility(ies)		No information available.
Partition coefficient	< -1.8	No information available OECD Test No. 107: Partition Coefficient (n-octanol/water): Shake Flask Method.
Autoignition temperature		No information available.
Decomposition temperature	411 °C	ASTM E 537-02
Kinematic viscosity		Not applicable.
Dynamic viscosity		Not applicable.
Explosive properties		Not explosive.
Oxidising properties		Not oxidising.
Density	1.91 g/cm <sup>3</sup>	ISO 1183-1
Bulk density		No information available.

**Other information:** No information available.

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### 10. STABILITY AND REACTIVITY

**Reactivity:** There exists no specific test data for this product.  
For further information, see the subsequent subsections of this chapter.

**Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** No dangerous reactions known under normal conditions of use.

**Conditions to avoid:** None known.

**Incompatible materials:** None known.

**Hazardous decomposition products:** None known.

### 11. TOXICOLOGICAL INFORMATION

**Information on toxicological effects:**

**Information on likely routes of exposure:** Inhalation. Dermal.

**Symptoms related to the physical, chemical and toxicological characteristics:** None known.

**Numerical measures of toxicity:**

**Acute toxicity:** May be harmful if swallowed.

Sodium Formate (141-53-7)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 420: Acute Oral Toxicity - Fixed Dose Procedure	Rat	Oral	3000	LD50 (lethal dose) mg/kg
OECD Test No. 402: Acute Dermal Toxicity	Rat	Dermal	>2000	LD50 (lethal dose) mg/kg
EPA OTS 798.1150	Rat	Inhalation	>0.67	LC0 mg/m <sup>3</sup> The maximal attainable dust concentration of 0.67 mg/l produced no signs of toxicity.

**Skin corrosion/irritation:** Non-irritating to the skin.

Sodium Formate (141-53-7)			
Method	Species	Exposure route	Results
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal	Non-irritant No classification according to GHS criteria.

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**Serious eye damage/eye irritation:** Non-irritant.

Sodium Formate (141-53-7)			
Method	Species	Exposure route	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	Eye	Non-irritant No classification according to GHS criteria.

**Respiratory or skin sensitisation:** No sensitising effects known.

Sodium Formate (141-53-7)			
Method	Species	Exposure route	Results
OECD Test No. 406: S	Guinea pig	Skin	Not a skin sensitiser read-across from supporting substance (structural analogue)

**Germ cell mutagenicity:** Not mutagenic.

Sodium Formate (141-53-7)		
Method	Species	Results
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro	Negative
OECD Test No. 476: In vitro Mammalian Cell Gene Mutation Test	in vitro	Negative read-across from supporting substance (structural analogue)
OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test	in vitro	Negative read-across from supporting substance (structural analogue)
OECD Test No. 477: Genetic Toxicology: Sex-Linked Recessive Lethal Test in <i>Drosophila melanogaster</i>	In vivo	Negative

**Carcinogenicity:** There is no indication for any carcinogenic potential since all in vitro mutagenicity studies are negative.

Sodium Formate (141-53-7)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 453: Combined Chronic Toxicity/Carcinogenicity Studies	Rat	Oral	2000	NOAEL mg/kg bw/d No carcinogenic effects have been observed. read-across from supporting substance (structural analogue)

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

Sodium Formate (141-53-7)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 414: Pre-natal Development Toxicity Study	Rat	Oral	1000	NOAEL mg/kg bw/d No embryotoxic or teratogenic effects have been observed.
OECD Test No. 416: Two-Generation Reproduction Toxicity	Rabbit	Oral	1000	NOAEL mg/kg bw/d No impairment of fertility has been observed. No embryotoxic or teratogenic effects have been observed.

**STOT - single exposure:** No known effect.

**STOT - repeated exposure:**

Sodium Formate (141-53-7)				
Method	Species	Exposure route	Effective dose	Remarks
Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat	Oral	3138	NOAEL mg/kg bw/d read-across from supporting substance (structural analogue)

**Aspiration hazard:** Not applicable.

## 12. ECOLOGICAL INFORMATION

**Toxicity:** Low toxicity to aquatic organisms.

Sodium Formate (141-53-7)					
Method	Species	Exposure route	Effective Dose	Exposure time	Remarks
EPA OTS 797.1400	Oncorhynchus mykiss (rainbow trout)	Freshwater	>1000	96h	LC50 (lethal concentration) mg/l
EPA-660/3-75-009	Daphnia magna	Freshwater	>1000	48h	EC50 (effective concentration) mg/l
Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	Freshwater	>1000	72h	EC50 (effective concentration) mg/l read-across from supporting substance (structural analogue)

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**Persistence and degradability:** Readily biodegradable.

Sodium Formate (141-53-7)			
Method	Value	Exposure time	Results
OECD Test No. 306: Biodegradability in Seawater	86%	28d	Readily biodegradable
DIN EN 1899 BOD	3940	5d	mgO2/kg

**Bioaccumulative potential:** Not potentially bioaccumulable.

Chemical Name	Partition coefficient	Bioconcentration factor (BCF)
Sodium Formate	-1.8	

**Mobility in soil:** The substance is not expected to adsorb to a high degree to suspended solids and sediment based upon the log Pow.

**Results of PBT and vPvB assessment:** This substance does not meet the criteria for classification as PBT or vPvB.

**Other adverse effects:** None known.

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods:**

**Waste from residues/unused products:** The product is not classified as hazardous waste. Incinerate at a licensed installation.

**Contaminated packaging:** Thoroughly emptied and clean packaging may be recycled.

**Waste codes / waste designations according to EWC/AVV:** Waste from residues/unused products: 16 03 06.

**Other Information:** Waste codes should be assigned by the user based on the application for which the product was used.

### 14. TRANSPORT INFORMATION

**ADR Road transport:**

**UN number:** Not regulated.  
**UN proper shipping name:** Not regulated.  
**Transport hazard class(es):** Not regulated.  
**Packing Group:** Not regulated.  
**Environmental hazard:** Not applicable.  
**Special precautions for user:** None.

**RID Rail transport:**

**UN number:** Not regulated.  
**UN proper shipping name:** Not regulated.  
**Transport hazard class(es):** Not regulated.  
**Packing Group:** Not regulated.  
**Environmental hazard:** Not applicable.  
**Special precautions for user:** None.

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#### IMDG Sea transport:

**UN number:** Not regulated.  
**UN proper shipping name:** Not regulated.  
**Transport hazard class(es):** Not regulated.  
**Packing Group:** Not regulated.  
**Marine pollutant:** Not applicable.  
**Special precautions for user:** None.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** No information available.

#### IATA Air transport:

**UN number:** Not regulated.  
**UN proper shipping name:** Not regulated.  
**Transport hazard class(es):** Not regulated.  
**Packing Group:** Not regulated.  
**Environmental hazard:** Not applicable.  
**Special precautions for user:** None.

### 15. REGULATORY INFORMATION

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

**International Regulations:** Not applicable.

**European Union:** Not applicable.

#### France:

**Occupational Illnesses (R-463-3, France):** Not applicable

#### Germany:

**Water hazard class (WGK):** Slightly hazardous to water (WGK 1).

**Chemical safety assessment:** A Chemical Safety Assessment has been carried out for this substance.

**Note:** The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

### 16. OTHER INFORMATION

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

**Issue Date** 07-Dec-2018  
**Revision Date** 29-Nov-2018  
**Revision Note** SDS sections updated 1 and 3.

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**This safety data sheet complies with the requirements of:** Regulation (EC) No. 1907/2006, COMMISSION REGULATION (EU) No. 830/2015 of 20 May 2015.

**Legal disclaimer:**

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.