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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier****Product name** **Sodium Formate****Chemical name** Sodium formate **CAS No** 141-53-7**Pure substance/mixture** Substance**1.2. Relevant identified uses of the substance or mixture and uses advised against****Application** Tanning agent, Bleaching agent, Deicing agent, Raw material, in mining (drilling muds and ore flotation)**Uses advised against** Not identified.**1.3. Details of the supplier of the safety data sheet****Manufacturer****Perstorp Specialty Chemicals AB**
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www.perstorp.com**Shandong Fufeng Perstorp Chemical Co., Ltd.**
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www.perstorp.com**Perstorp Polyols, Inc.**
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Toledo, Ohio 43612
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www.perstorp.com**E-mail Address** productinfo@perstorp.com**1.4. Emergency telephone number****Australia** (+)61 1 800 686 951 (contract no: 334101)**SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture**Classification according to Work Health and Safety Regulations (2011)**

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

2.2. Label elements

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

Symbols/Pictograms

Not applicable

Signal word

None

Hazard statements

Not applicable

Precautionary statements

Not applicable

2.3. Other hazards

MAY BE HARMFUL IF SWALLOWED.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Chemical name	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sodium formate	141-53-7	>97	[A]
Propylidyntrimethanol	77-99-6	>0.1 - <3	Repr. 2 (H361)

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

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

Notes

Additional information

Hazardous impurities:

Cas No: 77-99-6

SECTION 4: First aid measures**4.1. 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 have been ingested or if you feel unwell, get medical advice/attention.

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

None known.

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 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.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Carbon monoxide (CO). Carbon dioxide (CO₂).

5.3. Advice for firefighters

No special protective equipment required.

SECTION 6: Accidental release measures

6.1. 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.

6.2. Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so

Small Spill

Vacuum or sweep material and place in a disposal container.

Large Spill

Cover powder spill with plastic sheet or tarp to minimize 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 minimize spreading and keep powder dry. Clean contaminated surface thoroughly. Use personal protective equipment as required. Avoid creating dust.

6.4. Reference to other sections

See Section 7, 8, 13 for more information.

SECTION 7: Handling and storage

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

Users are advised to consider national Occupational Exposure Limits or other equivalent values. (if existing).

8.2. Exposure controls

Appropriate engineering controls

Eyewash stations. Ensure adequate ventilation, especially in confined areas.

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

No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties**Appearance**

Powder
Crystalline
White

Odor	mild
Odor threshold	Not applicable

Property	Values	Remarks • Method
pH		Not applicable
Melting point / freezing point	258 °C	OECD Test No. 102: Melting Point/ Melting Range
Initial boiling point and boiling range		Decomposes, ASTM E 537-02
Flash point		Not applicable
Evaporation rate		Not applicable
Flammability		Not flammable
Flammability limit in air		
Upper flammability or explosive limits		Not applicable
Lower flammability or explosive limits		Not applicable
Vapor pressure	1.0 x 10 ⁻⁵ Pa	MPBPWIN v1.43
Relative vapor density		Not applicable
Specific gravity		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.	
Oxidizing properties	Not oxidizing.	
Liquid density	1.91 g/cm ³	ISO 1183-1
Bulk density		No information available

9.2. Other information

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None known.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Information on likely routes of exposure**

Inhalation. Dermal.

Symptoms related to the physical, chemical and toxicological characteristics**Most important symptoms and effects, both acute and delayed**

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. 401: Acute Oral Toxicity	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 ³ 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

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 sensitization

No sensitising effects known.

Sodium formate (141-53-7)			
Method	Species	Exposure route	Results:
OECD Test No. 406: Skin	Guinea pig	Skin	Not a skin sensitizer *

Sensitization			read-across from supporting substance (structural analogue)
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Germ cell mutagenicity

Not mutagenic.

Sodium formate (141-53-7)		
Method	Species	Results:
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro	Negative * read-across from supporting substance (structural analogue)
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 * read-across from supporting substance (structural analogue)

Carcinogenicity

Since all in vitro mutagenicity studies are negative, there is no hint for any carcinogenic potential.

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

Reproductive toxicity

This product does not contain any known or suspected reproductive hazards.

Component Information

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

Propylidynetrimethanol (77-99-6)

Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 422: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test	Rat	Oral	800	P; NOAEL mg/kg bw/day No indication of reproductive toxicity according to OECD guideline 422 screening test.
OECD Test No. 422: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test	Rat	Oral	800	F1; NOAEL mg/kg bw/day No embryotoxic or teratogenic effects have been observed.
OECD Test No. 414: Prenatal	Rat	Oral	100	NOEL (No observed

Development Toxicity Study				effect level) mg/kg bw/day Developmental Toxicity
OECD Test No. 414: Prenatal Development Toxicity Study	rabbit	Oral	>450	NOAEL mg/kg bw/day No embryotoxic or teratogenic effects have been observed.
OECD Test No. 443	Rat	Oral	74-99	NOAEL mg/kg bw/day General hazards
OECD Test No. 443	Rat	Oral	74-99	LOAEL mg/kg bw/day Developmental Effects

STOT - Single exposure No known effect.

STOT - Repeated exposure

Sodium formate (141-53-7)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat	Oral	3138	NOAEL mg/kg bw/day * read-across from supporting substance (structural analogue)

Aspiration hazard

Not applicable.

SECTION 12: Ecological information

12.1. 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
Guideline other than OECD guideline	Pseudokirchneriella subcapitata	Freshwater	>1000	72h	EC50 (effective concentration) mg/l

12.2. 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

12.3. Bioaccumulative potential

Not potentially bioaccumulable.

Chemical name	Partition coefficient	Bioconcentration factor (BCF)
Sodium formate	-1.8	

12.4. Mobility in soil

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

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

None known

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Waste from residues/unused products**

Disposal should be in accordance with applicable regional, national and local laws and regulations. Incinerate at a licensed installation.

Contaminated packaging

Thoroughly emptied and clean packaging may be recycled.

SECTION 14: Transport information**ADR Road transport**

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
Subsidiary hazard class	-
14.4 Packing group	Not regulated
14.5 Environmentally hazardous indication	Not applicable
14.6 Special provisions	None

RID Rail transport

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
Subsidiary Hazard Class	-
14.4 Packing group	Not regulated
14.5 Environmentally hazardous indication	Not applicable
14.6 Special provisions	None

IMDG Sea transport

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Marine pollutant	Not applicable
14.6 Special provisions	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

IATA Air transport

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmentally hazardous indication	Not applicable
14.6 Special provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

International regulations

Not applicable.

National regulations**Australia**

See section 8 for national exposure control parameters.

Other regulations, restrictions and prohibition regulations

Comply with Directive 94/9/EC concerning equipment and protective systems intended for use in potentially explosive atmospheres and, Directive 1999/92/EC regarding minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres.

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H361 - Suspected of damaging fertility or the unborn child

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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 Safety Data Sheet