

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product Name **Potassium Formate 50%**

Pure substance/mixture Mixture

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

Application Deicing agent. Heat transfer medium. Use in drilling fluids.

Uses advised against Not identified.

1.3. Details of the supplier of the safety data sheet**Manufacturer**

Perstorp Specialty Chemicals AB
SE-284 80 Perstorp, Sweden
Tel. +46 435 380 00
www.perstorp.com

Perstorp Polialcoli Srl
Via Ettore Ara 48
IT- 13100 Vercelli (VC), Italy
Tel. +39 0161 298611
www.perstorp.com

E-mail address productinfo@perstorp.com

1.4. Emergency telephone number

Europe (+)1 760 476 3961 (contract no: 334101)

United Kingdom (+)44 8 08 189 0979 (contract no: 334101)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

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

2.2. Label elements

This mixture 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

None known. The components in this formulation do not meet the criteria for classification as PBT or vPvB.

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

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	REACH Registration Number	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Potassium formate	209-677-9	590-29-4	01-2119486456-26	50	Not classified

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

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	Immediate medical attention is not required. Wash with soap and water.
Eye contact	Wash with plenty of water. If symptoms persist, call a doctor.
Ingestion	Clean mouth with water and drink plenty of water afterwards. If a large quantity has been ingested or you feel unwell, get medical advice/attention.

Self-protection of the first aider

Not applicable.

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

Eye contact: May cause mild redness of the eye.

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**

Not combustible. Use extinguishing agent suitable for type of surrounding fire.

Unsuitable extinguishing media

Not applicable.

5.2. Special hazards arising from the substance or mixture

None in particular.

5.3. Advice for firefighters

No special protective equipment required.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Ventilate affected area. Stop leak if you can do it without risk.

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**

Small spill	Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Large spill	Pump up the product into a spare container suitably labelled.

Methods for cleaning up

Dilute with plenty of water. Clean contaminated surface thoroughly.

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 protective equipment as required. Avoid contact with skin and eyes.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Take off all contaminated clothing and wash it before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry and cool place. Keep away from heat. Protect from sunlight.

Suitable container/equipment material

stainless steel.

Unsuitable container/equipment material

Zinc.

7.3. Specific end use(s)

This information is supplied in the present Safety Data Sheet.

SECTION 8: Exposure controls/personal protection**8.1. 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

Potassium formate (590-29-4)			
Type	Exposure route	DNEL	Remarks
Acute effects, systemic	Inhalation	435	mg/m ³
Chronic effects, systemic	Inhalation	435	mg/m ³
Acute effects, systemic	Dermal	6175	mg/kg bw/d
Chronic effects, systemic	Dermal	6175	mg/kg bw/d

Derived No Effect Level (DNEL) - Consumer

Potassium formate (590-29-4)			
Type	Exposure route	DNEL	Remarks
Chronic effects, systemic	Oral	30.9	mg/kg bw/d
Acute effects, systemic	Inhalation	107.4	mg/m ³
Chronic effects, systemic	Inhalation	107.4	mg/m ³
Acute effects, systemic	Dermal	3088	mg/kg bw/d
Chronic effects, systemic	Dermal	3088	mg/kg bw/d

Predicted No Effect Concentration (PNEC)

Potassium formate (590-29-4)		
Environmental compartment	Predicted No Effect Concentration (PNEC)	Remarks

Freshwater	2	mg/l
Freshwater sediment	13.4	mg/kg dry weight
Marine water	0.2	mg/l
Marine sediment	1.34	mg/kg dry weight
Intermittent	10	mg/l
Impact on Sewage Treatment	1.8	mg/l
Soil	1.5	mg/kg dry weight

8.2. Exposure controls

Appropriate engineering controls

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	Wear protective gloves. Butyl rubber. Chloroprene rubber, CR. Nitrile rubber, NBR. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.
Skin and body protection	No special technical protective measures are necessary.
Respiratory protection	None under normal use conditions.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

liquid
colourless, light yellow

Odour

weak characteristic

Odour threshold

No information available

Property

Value

Remarks • Method

pH

8.0 - 10.0

@ 20 °C

Melting point / freezing point

-80 ± 10 °C

Boiling point / boiling range

114 - 150 °C

Flash point

> 100 °C

Estimated

Evaporation rate

No information available

Flammability (solid, gas)

Not applicable

Explosive limits

Upper explosive limits

Not applicable

Lower explosive limits

Not applicable

Vapour pressure

Not determined

Vapour density

No information available

Relative density

No information available

Water solubility

>1000 g/L

completely soluble

Solubility(ies)

No information available

Partition coefficient

See Section 12 for additional ecological information

Autoignition temperature

Not applicable

Decomposition temperature

Not determined

Kinematic viscosity

No information available

Dynamic viscosity

No information available

Explosive properties

Not explosive.

Oxidising properties

Not oxidising.

Density

1.33-1.36 g/cm³

@ 15 °C

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

None under normal processing.

10.4. Conditions to avoid

None under normal use conditions.

10.5. Incompatible materials

Strong acids, Strong bases, Oxidising substances.

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

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

Dermal.

Symptoms related to the physical, chemical and toxicological characteristics

See Section 4 for more information.

Numerical measures of toxicity**Acute toxicity**

Product does not present an acute toxicity hazard based on known or supplied information.

ATEmix (oral)	11,000.00 mg/kg
ATEmix (dermal)	10,002.00 mg/kg
Acute oral toxicity	0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
Acute dermal toxicity	0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
Acute inhalation toxicity - Vapour	50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)
Acute inhalation toxicity - dust/mist	50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Potassium formate (590-29-4)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 420: Acute Oral Toxicity - Fixed Dose Procedure	Mouse	Oral	5500	LD50 (lethal dose) mg/kg
OECD Test No. 402: Acute Dermal Toxicity	Rat	Dermal	>2000	LD50 (lethal dose) mg/kg

Skin corrosion/irritation

Non-irritant.

Potassium formate (590-29-4)			
Method	Species	Exposure route	Results:
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal	Non-irritant read-across from supporting substance (structural analogue)

Serious eye damage/eye irritation

Slightly irritating.

Potassium formate (590-29-4)			
Method	Species	Exposure route	Results:
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	Eye	Slightly irritating. No classification according to GHS criteria. read-across from supporting substance (structural analogue)

Respiratory or skin sensitisation

According to the data on the components: Not a skin sensitiser.

Potassium formate (590-29-4)			
Method	Species	Exposure route	Results:
OECD Test No. 406: Skin Sensitisation	Guinea pig	Skin	Not a skin sensitiser read-across from supporting substance (structural analogue)

Germ cell mutagenicity

According to the data on the components: Not mutagenic.

Potassium formate (590-29-4)			
Method	Species	Exposure route	Results:
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro		Not mutagenic read-across from supporting substance (structural analogue)
OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test	in vitro		Not mutagenic read-across from supporting substance (structural analogue)
OECD Test No. 476: In vitro Mammalian Cell Gene Mutation Test	in vitro		Not mutagenic read-across from supporting substance (structural analogue)

Carcinogenicity

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

Reproductive toxicity

According to the data on the components: Is not considered hazardous to the reproduction.

Potassium formate (590-29-4)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 416: Two-Generation Reproduction Toxicity	Rat	Oral	1292	NOAEL mg/kg bw/d (P) Reproductive effects read-across from supporting substance (structural analogue)
OECD Test No. 416: Two-Generation Reproduction Toxicity	Rat	Oral	1292	NOAEL mg/kg bw/d (F1) Developmental effects read-across from supporting substance (structural analogue)
OECD Test No. 414: Pre-natal Development Toxicity Study	Rabbit	Oral	1292	NOAEL mg/kg bw/d Developmental Toxicity read-across from supporting substance (structural analogue)
OECD Test No. 414: Pre-natal Development	Rabbit	Oral	1292	NOAEL mg/kg bw/d Teratogenicity

Toxicity Study				read-across from supporting substance (structural analogue)
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STOT - single exposure No known effects under normal use conditions.

STOT - repeated exposure

Potassium formate (590-29-4)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat	Oral	3877	NOAEL mg/kg bw/d read-across from supporting substance (structural analogue)

Aspiration hazard

No information available.

SECTION 12: Ecological information

12.1. Toxicity

Low toxicity to aquatic organisms.

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Potassium formate (590-29-4)					
Method	Species	Exposure route	Effective dose	Exposure time	Remarks
OECD Test No. 203: Fish, Acute Toxicity Test	Oncorhynchus mykiss (rainbow trout)	Freshwater	3500	96h	LC50 (lethal concentration) mg/l
Unknown	Daphnia magna	Freshwater	>1000	48h	EC50 (effective concentration) mg/l read-across from supporting substance (structural analogue)
Unknown	Daphnia magna	Freshwater	120	48h	NOEC mg/l read-across from supporting substance (structural analogue)
OECD Test No. 211: Daphnia magna Reproduction Test	Daphnia magna	Freshwater	>100	21d	NOEC mg/l read-across from supporting substance (structural analogue)
ISO 10253	Skeletonema costatum	Marine water	3700	72h	EC50 (effective concentration) mg/l

12.2. Persistence and degradability

According to the data on the components: Readily biodegradable

Potassium formate (590-29-4)			
Method	Value	Exposure time	Results:
OECD Test No. 301D: Ready Biodegradability: Closed Bottle Test (TG 301 D)	92%	28d	Readily biodegradable
OECD Test No. 306:	71.3%	28d	Readily biodegradable

Biodegradability in Seawater			
DIN EN 1899 BOD	3175	5d	mgO2/l

12.3. Bioaccumulative potential

Based on the partition coefficients of the ingredients the product is not expected to bioaccumulate in organisms.

Chemical Name	Partition coefficient	Bioconcentration factor (BCF)
Potassium formate	-2.0	

12.4. Mobility in soil

The product 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

The components in this formulation do 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

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.

SECTION 14: Transport information

ADR Road transport

14.1 UN 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 Environmental hazard	Not applicable
14.6 Special precautions for user	None

RID Rail transport

14.1 UN 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 Environmental hazard	Not applicable
14.6 Special precautions for user	None

IMDG Sea transport

14.1 UN 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 precautions for user	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

IATA Air transport	Not regulated
14.1 UN 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 Environmental hazard	Not applicable
14.6 Special precautions for user	None

SECTION 15: Regulatory information

15.1. 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)

15.2. Chemical safety assessment

Chemical Safety Assessments have been carried out for these substances; CAS No. 590-29-4.

SECTION 16: Other information

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

Issue Date	27-Oct-2017
Revision Date	26-Oct-2017
Revision Note	SDS sections updated; 1

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

Disclaimer

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End of Safety Data Sheet