

Preparation Date 01-12-2014

Revision Date 11-11-2015

Revision Number 4.1

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

Product code 51360
Product name **CLEARWAY F1**
Pure substance/mixture Mixture

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

Recommended use De-icing
Uses advised against -

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

Taminco Finland Oy
a subsidiary of Eastman Chemical Company
Typpitie 1
FI-90620 Oulu
Finland
T: +358 207 108 300
F: +358 207 108 301

For further information, please contact

E-mail address emnmsds@eastman.com**1.4. Emergency telephone number**

(+32) 9 254 10 36

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008
Not Hazardous

2.2. Label Elements

Product Identifier
Not Hazardous

2.3. Other Hazards

May cause skin and eye irritation

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

not applicable

3.2 MIXTURES

No Hazardous components According to EC Regulation 1907/2006/EC

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

Additional Information

Contains : Potassium formate CAS No 590-29-4, EINECS 209-677-9 -

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. Consult a physician if necessary.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Ingestion	Rinse mouth. Give small amounts of water to drink. Obtain medical attention.

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

Symptoms MAY CAUSE EYE IRRITATION

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically

SECTION 5: Fire fighting measures

5.1. Extinguishing media

Suitable extinguishing media

foam, dry powder, carbon dioxide (CO₂), Water mist

Extinguishing media which must not be used for safety reasons

No information available

5.2. Special hazards arising from the substance or mixture

Heating can release hazardous gases.

Hazardous combustion products carbon oxides

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Avoid contact with the skin and the eyes. Use personal protective equipment.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

No special environmental precautions required.

6.3. Methods and material for containment and cleaning up

Methods for containment

Large spills should be collected mechanically (remove by pumping) for disposal. Keep in suitable, closed containers for disposal.

Methods for cleaning up

Dilute with plenty of water. Take up mechanically and collect in suitable container for disposal. Small amounts. ∴ Flush into sewer with plenty of water. Dispose of in accordance with local regulations.

6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

Use only in area provided with appropriate exhaust ventilation. Handle and open container with care. Avoid contact with skin, eyes and clothing. wear personal protective equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures

Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from sunlight. Incompatible Materials: strong acids.

7.3. Specific end use(s)

Specific use(s)

De-icing

Risk Management Methods (RMM)

The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering measures Ensure adequate ventilation.

Personal protective equipment

Eye protection tightly fitting safety goggles.

Hand protection PVC -. Neoprene gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The exact break through time can be obtained from the protective glove producer and this has to be observed.

Skin and body protection Suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Recommended Filter type: A-P2 .

Environmental exposure controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	liquid		
Appearance	clear	Odor	odorless
Colour	Colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	10.5 - 11.5	-
Melting point/freezing point	< - 60 °C	-
Boiling point/range	116 °C	-
Flash point	Not flammable	closed cup
Evaporation rate	no data available	-
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit:	-	
Lower flammability limit:	-	
Vapor Pressure	similar to water	-
Vapor Density	no data available	-
Specific Gravity	1.33 - 1.35	-
Water solubility	completely soluble	-
Partition coefficient		-
Autoignition temperature	no data available	-
Decomposition temperature	> 167 °C	-
Kinematic viscosity	no data available	-
Dissociation constant	Not applicable	-
Surface tension	Not applicable	-
Oxidising properties	The substance or mixture is not classified as oxidizing	

9.2. Other information

Dynamic viscosity	<= 3 mPas @ 20 °C
Density	1.33 - 1.35 g/cm ³ @ 20 °C

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

See Incompatible Materials .

10.2. Chemical stability

Stable under recommended storage conditions.

Explosion data

Sensitivity to Mechanical Impact no data available.

Sensitivity to Static Discharge no data available.

10.3. Possibility of hazardous reactions

polymerization

Hazardous polymerization does not occur.

Possibility of hazardous reactions

Stable under normal conditions.

10.4. Conditions to avoid

elevated temperature.

10.5. Incompatible materials

strong acids.

10.6. Hazardous decomposition products

Thermal decomposition. > 167 °C. Carbon oxides.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

LD50/oral/rat =	> 2000 mg/kg
LD50/dermal/rat =	No data available
LC50/inhalation/4h/rat =	No data available
Eye irritation	MAY CAUSE EYE IRRITATION
Skin irritation	MAY CAUSE SKIN IRRITATION
sensitisation	no data available

Human experience

Human experience	Skin
	Chronic exposure causes drying effect on the skin and eczema
	Ingestion may provoke the following symptoms
	Nausea
	Vomiting

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Product Information

LC50 / 48 hour / fish	2750 mg/l
LC50/48h/daphnia =	> 2000 mg/L
EC50/72h/algae =	> 15000 mg/l
Toxicity to bacteria EC50 / 16 Hour	> 50000 mg/l

12.2. Persistence and degradability

Readily biodegradable.
Biochemical oxygen demand (BOD). 90 mg/g (5 d).

12.3. Bioaccumulative potential

Not likely to bioaccumulate

12.4. Mobility in soil

Soluble in water

12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)
This mixture contains no substance considered to be very persistent nor very bioaccumulating (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
Contaminated packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1 UN-No	not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	not regulated
14.4 Packing group	not regulated
14.5 Marine pollutant	No
Environmental hazard	No
14.6 Special Provisions	Not relevant
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	not applicable

RID

14.1 UN-No	not regulated
14.2 Proper shipping name	not regulated

14.3 Hazard Class	not regulated
14.4 Packing group	not regulated
14.5 Environmental hazard	No
14.6 Special Provisions	Not relevant

ADR

14.1 UN-No	not regulated
14.2 Proper shipping name	not regulated
14.3 Hazard Class	not regulated
14.4 Packing group	not regulated
14.5 Environmental hazard	No
14.6 Special Provisions	Not relevant

ADN

14.1 UN-No	not regulated
14.2 Proper shipping name	not regulated
14.3 Hazard Class	not regulated
14.4 Packing group	not regulated
14.5 Environmental hazard	No
14.6 Special Provisions	Not relevant

ICAO/IATA

14.1 UN-No	not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	not regulated
14.4 Packing group	not regulated
14.5 Environmental hazard	No
14.6 Special Provisions	Not relevant

Section 15: REGULATORY INFORMATION

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

Water hazard class (WGK)	WGK 1
--------------------------	-------

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Does not Comply
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

No data is available on the product itself

Section 16: OTHER INFORMATION

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

Legend

SVHC: Substances of Very High

Concern for Authorization:

- Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Preparation Date 01-12-2014

Revision Date 11-11-2015

Reason for revision not applicable.

Training Advice Provide adequate information, instruction and training for operators

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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