SAFETY DATA SHEET

NATURET -17 / NATURET -17 GeoSafe -maalämpöneste

The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued	01.11.2021

1.1. Product identifier

Product name	NATURET -17 / NATURET -17 GeoSafe -maalämpöneste
Extended SDS with ES incorporated	No

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

Use of the substance / preparation	Solvent
Main intended use	PC-TEC-7 Heat transfer fluids

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name	Anora Group Plc / Anora Industrial / Rajamäki
Office address	Valta-akseli 9
Postcode	05200
City	Rajamäki
Country	Finland
Telephone number	+358 207 013 648

Manufacturer

Company name	Anora Group Plc
Postal address	PL 350
Postcode	00101
City	HELSINKI
Country	FINLAND
Telephone number	+358 207 013 013
Website	https://www.altiacorporation.fi

1.4. Emergency telephone number

Emergency telephone	Telephone number: 0800 147 111, (09) 471 977, Myrkytystietokeskus / HUS

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Flam. Liq. 3; H226

2.2. Label elements

Hazard pictograms (CLP)

Signal word	Warning
Hazard statements	H226 Flammable liquid and vapour.
Precautionary statements	P210 Keep away from heat / sparks / open flames / hot surfaces. – No smoking. P233 Keep container tightly closed. P241 Use explosion-proof [electrical / ventilating / lighting /] equipment. P243 Take action to prevent static discharge. P403+P235 Store in a well-ventilated place. Keep cool.

2.3. Other hazards

Other hazards	Avoid breathing dust / fume / gas / mist / vapours / spray.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents	Notes
Ethanol	CAS No.: 64-17-5 EC No.: 200-578-6 Index No.: 603-002-00-5 REACH Reg. No.: 01-2119457610-43-xxxx	Flam. Liq. 2; H225 Eye Irrit. 2; H319	28,0 %	
Propan-2-ol	CAS No.: 67-63-0 EC No.: 200-661-7 Index No.: 603-117-00-0 REACH Reg. No.: 01-2119457558-25-xxxx	Flam. Liq. 2; H225; Eye Irrit. 2; H319; STOT SE 3; H336;	0,6 %	
Butanone	CAS No.: 78-93-3 EC No.: 201-159-0 Index No.: 606-002-00-3 REACH Reg. No.: 01-2119457290-43-xxxx	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	0,6 %	

SECTION 4: First aid measures

4.1. Description of first aid measures

General	Remove/Take off immediately all contaminated clothing.
Inhalation	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Skin contact	Rinse immediately with plenty of water. Get medical attention if irritation persists after washing.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Contact physician if irritation persists.
Ingestion	DO NOT induce vomiting. Get medical attention immediately.

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

General symptoms and effects	If large quantities of this matrial are swallowe, call a physician immediately. Ingestion of larger amounts may cause defects to the nervous system (e.g. dizziness, headache).

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

Medical treatment	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Alcohol resistant foam. Powder. Carbon dioxide (CO2). Extinguish with water fog.
Improper extinguishing media	Water spray.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	Flammable liquid and vapour.

5.3. Advice for firefighters

Fire fighting procedures	Wear full protective clothing. Containers close to fire should be removed or cooled with water. Use face mask with gas filter during fire fighting.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Eliminate all ignition sources if safe to do so.
Personal protection measures	Provide adequate ventilation. Stop leak if possible without risk. DO NOT touch spilled material! Do not smoke or use open fire, or other sources of ignition.

6.2. Environmental precautions

Environmental precautionary measures	Do not discharge into drains, water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment.

6.3. Methods and material for containment and cleaning up

Containment	Small Spillages: Absorb with sand or other inert absorbent. Large Spillages: Collect larger spills and deliver for recycling. Inform Authorities if large amounts are involved.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Static electricity and formation of sparks must be prevented. Use spark-proof tools and explosion-proof equipment. Do not smoke or use open fire, or other sources of ignition.

7.2. Conditions for safe storage, including any incompatibilities

Storage	Flammable/combustible - Keep away from oxidisers, heat and flames. Large amounts and storages should be stored in accordance with national regulation on storage of flammable liquids.

7.3. Specific end use(s)

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Substance	Identification	Exposure limits	TWA Year
Ethanol	CAS No.: 64-17-5	Limit value type: HTP Limit value (8 h) : 1000 ppm **Limit value (short term)** Value: 1300 ppm Limit value type: HTP Limit value (8 h) : 1900 mg/m3 **Limit value (short term)** Value: 2500 mg/m3	
Propan-2-ol	CAS No.: 67-63-0	Limit value (8 h) : 400 ppm Limit value (8 h) : 999 mg/m³ **Limit value (short term)** Value: 500 ppm **Limit value (short term)** Value: 1250 mg/m³	
Butanone	CAS No.: 78-93-3	Limit value (8 h) : 200 ppm Limit value (8 h) : 600 mg/m³ **Limit value (short term)** Value: 300 ppm **Limit value (short term)** Value: 899 mg/m³ **Exposure limit letter** Letter code: Sk; BEI	

DNEL / PNEC

DNEL	Group: Professional Route of exposure: Long-term inhalation (local) Value: 950 mg/m³ Comments: Ethanol Group: Professional Route of exposure: Acute inhalation (local) Value: 1900 mg/m³ Comments: Ethanol Group: Professional Route of exposure: Long-term dermal (local) Value: 343 mg/kg Comments: Ethanol Group: Consumer Route of exposure: Acute inhalation (local) Value: 950 mg/m³ Comments: Ethanol Group: Consumer Route of exposure: Long-term dermal (local) Value: 206 mg/kg Comments: Ethanol Group: Consumer Route of exposure: Long-term inhalation (local) Value: 114 mg/m³ Comments: Ethanol Group: Consumer Route of exposure: Long-term oral (local) Value: 87 mg/kg Comments: Ethanol Group: Professional Route of exposure: Long-term inhalation (systemic) Value: 600 mg/m³ Comments: MEK Group: Professional Route of exposure: Long-term dermal (systemic) Value: 1161 mg/kg bw/day Comments: MEK Group: Consumer Route of exposure: Long-term inhalation (systemic) Value: 106 mg/m³ Comments: MEK Group: Consumer Route of exposure: Long-term dermal (systemic) Value: 412 mg/kg bw/day Comments: MEK

PNEC	Group: Consumer Route of exposure: Long-term oral (systemic) Value: 31 mg/kg bw/day Comments: MEK Route of exposure: Freshwater Value: 0,96 mg/l Comments: Ethanol Route of exposure: Saltwater Value: 0,79 mg/l Comments: Ethanol Route of exposure: Freshwater sediments Value: 3,6 mg/kg Comments: Ethanol Route of exposure: Soil Value: 0,63 mg/kg Comments: Ethanol Route of exposure: Freshwater Value: 55,8 mg/l Comments: MEK Route of exposure: Saltwater Value: 55,8 mg/l Comments: MEK Route of exposure: Sewage treatment plant STP Value: 709 mg/l Comments: MEK Route of exposure: Freshwater sediments Value: 284,74 mg/kg dw Comments: MEK Route of exposure: Saltwater sediments Value: 284,7 mg/kg dw Comments: MEK

8.2. Exposure controls

Safety signs

Precautionary measures to prevent exposure

Appropriate engineering controls	Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of dust.
Product related measures to prevent exposure	This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard

	EN 14387) is used.

Eye / face protection

Required Properties	Wear approved, tight fitting safety glasses where splashing is probable.

Hand protection

Skin- / hand protection, short term contact	Protective gloves must be used if there is a risk of direct contact or splash. Butyl rubber gloves are recommended.
Unsuitable materials	Rubber (natural, latex).

Skin protection

Suitable protective clothing	Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

Respiratory protection

Respiratory protection necessary at	In case of inadequate ventilation use suitable respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Colourless liquid.
Odour	Odour of alcohol.
Odour limit	Comments: Not determined.
Freezing point	Value: -17 °C
Boiling point / boiling range	Value: 78.2 °C Test reference: Ethanol
Flash point	Value: ~ 29 °C
Lower explosion limit with unit of measurement	Value: 3.3 % Test reference: Ethanol
Upper explosion limit with units of measurement	Value: 19 % Test reference: Ethanol
Vapour pressure	Value: 5.85 kPa Test reference: Ethanol
Density	Value: 0,955 kg/l
Solubility	Medium: Water Name: 100 %
Partition coefficient: n-octanol/ water	Value: -0.31 Comments: Ethanol
Auto-ignition temperature	Value: 363 - 425 °C Test reference: Ethanol

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Heating may cause a fire.

10.2. Chemical stability

Stability	Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Effect tested: LD50 Route of exposure: Oral Value: 10470 mg/kg Species: Rat Comments: Ethanol Effect tested: LD50 Route of exposure: Dermal Value: 15800 mg/kg Species: Rabbit Comments: Ethanol Effect tested: LC50 Route of exposure: Inhalation. Duration: 4 hour(s) Value: 51 - 55 mg/l Species: Rat Comments: Ethanol Effect tested: LC50 Route of exposure: Inhalation. Duration: 1 hour(s) Value: 30000 mg/m³ Species: Mouse Comments: Ethanol Effect tested: LD50 Route of exposure: Oral Method: OECD 401

	Value: 5840 mg/kg bw Species: Rat Comments: Isopropanol Effect tested: LD50 Route of exposure: Dermal Method: OECD 402 Value: 13900 mg/kg bw Species: Rabbit Comments: Isopropanol Effect tested: LC50 Route of exposure: Inhalation. Method: OECD 403 Duration: 6 hour(s) Value: > 25 mg/l Species: Rat Comments: Isopropanol Effect tested: LD50 Route of exposure: Oral Method: OECD 403 Value: 2193 mg/kg Species: Rat Comments: MEK Effect tested: LD50 Route of exposure: Dermal Value: > 8050 mg/kg Species: Rabbit Test reference: OECD 402 Comments: MEK Effect tested: LC50 Route of exposure: Inhalation. Value: > 5000 ppm Species: Rat Comments: MEK

Other information regarding health hazards

Assessment of carcinogenicity, classification	Did not show carcinogenic or mutagenic effects in animal experiments. In animal testing, risk of impaired fertility was shown only after administration of very high doses of this substance. Ethanol: A Chemical Safety Assessment has been carried out for this substance.

11.2 Other information

SECTION 12: Ecological information

12.1. Toxicity

Aquatic toxicity, fish	Toxicity type: Acute Value: 11200 mg/l

	Effect dose concentration: LC50 Exposure time: 96 hour(s) Comments: Ethanol Toxicity type: Unreported Value: 9600 mg/l Effect dose concentration: LC50 Test duration: 96 hour(s) Species: Pimephales promelas Comments: Isopropanol Toxicity type: Unreported Value: 2993 mg/l Effect dose concentration: LC50 Exposure time: 96 hour(s) Species: Pimephales promelas Method: OECD 203 Comments: MEK
Aquatic toxicity, algae	Toxicity type: Unreported Value: 1800 mg/l Effect dose concentration: EC50 Test duration: 7 day(s) Species: Green algae Comments: Isopropanol
Aquatic toxicity, crustacean	Toxicity type: Acute Value: 5012 mg/l Effect dose concentration: EC50 Exposure time: 48 hour(s) Comments: Ethanol Toxicity type: Unreported Value: 10000 mg/l Effect dose concentration: EC50 Test duration: 48 hour(s) Species: Daphnia magna Comments: Isopropanol Toxicity type: Unreported Value: 308 mg/l Effect dose concentration: EC50 Test duration: 48 hour(s) Species: Daphnia magna Method: OECD 202 Comments: MEK Toxicity type: Unreported Value: 2029 mg/l Effect dose concentration: EC50 Test duration: 96 hour(s) Species: Pseudokirchneriella subcapitata Method: OECD TG 201 Comments: MEK
Plant toxicity	Toxicity type: Unreported

	Value: 2104 mg/kg Test duration: 3 day(s) Species: Lactuca sativa Comments: Isopropanol

12.2. Persistence and degradability

Persistence and degradability description/evaluation	The substance is readily biodegradable.
Biodegradability	Value: > 80 % Method: OECD TG 301 Comments: Ethanol Value: 98 % Method: OECD 301 D Comments: MEK Test period: 28 day(s)

12.3. Bioaccumulative potential

Bioaccumulation, comments	Ethanol Bioaccumulation: Is not expected to be bioaccumulable. Log Pow = -0.3

12.4. Mobility in soil

Mobility	The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This product does not contain any PBT or vPvB substances.

12.6. Endocrine disrupting properties

12.7. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate methods of disposal for the chemical	Dispose of waste and residues in accordance with local authority requirements. Do not allow runoff to sewer, waterway or ground.
Appropriate methods of disposal for the contaminated packaging	Make sure containers are empty before discarding (explosion risk).

SECTION 14: Transport information

14.1. UN number

ADR/RID/ADN	1170
IMDG	1170
ICAO/IATA	1170

14.2. UN proper shipping name

Proper shipping name English ADR/RID/ADN	ETHANOL SOLUTION
ADR/RID/ADN	ETHANOL SOLUTION
IMDG	ETHANOL SOLUTION
ICAO/IATA	ETHANOL SOLUTION

14.3. Transport hazard class(es)

ADR/RID/ADN	3
Classificaton code ADR/RID/ADN	F1

14.4. Packing group

ADR/RID/ADN	III
IMDG	III
ICAO/IATA	III

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Maritime transport in bulk according to IMO instruments

Product name	ETHANOL SOLUTION
Pollution category	Z

Additional information

Hazard label ADR/RID/ADN	3
Hazard label IMDG	3
Hazard label ICAO/IATA	3

ADR/RID Other information

Tunnel restriction code	D/E
Transport category	3
Hazard No.	30

IMDG Other information

EmS	F-E, S-D

SECTION 15: Regulatory information

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

Restriction of chemicals according to Annex XVII (REACH)	None.

15.2. Chemical safety assessment

Chemical safety assessment performed	Yes

SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3)	H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
Key literature references and sources for data	(EU) N:o 1272/2008 Chemical Safety Report
Version	1