SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Safety data sheet according to Regulation (EC) 2020/878

Revision date 11/12/2023 **Revision Number** 1.73

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

1.1. Product identifier

Product Name Anti-Bac+ Sanitising Hand Rub

Product Code(s) ABHHR500, ABHHR500_6, ABHHR500F, ABHHR500F_6, ZA

Safety data sheet number 03088

Unique Formula Identifier (UFI) 93J8-903C-P002-RS45

Pure substance/mixture Mixture

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

Recommended use Cleaning agent

Uses advised against No specific uses advised against are identified

1.3. Details of the supplier of the safety data sheet

Manufacturer

AF INTERNATIONAL
MacDermid Alpha Electronics Solutions
ASHBY PARK
COALFIELD WAY
ASHBY de la ZOUCH
LEICESTERSHIRE. LE65 1JR
UNITED KINGDOM

+44 (0) 1530 419600
+44 (0) 1530 416640

info@af-net.com

Supplier

HK WENTWORTH LIMITED
32 RUE DE TOURNENFILS
91540 MENNECY
FRANCE

+33 (0) 1 82 88 47 94

info@af-net.com

For further information, please contact

E-mail address info@af-net.com

1.4. Emergency telephone number

Emergency Telephone POISON INFORMATION CENTRE (Beaumont Hospital, Republic of Ireland only) +353 (0)1 809 2166 (08:00 - 22:00)

Emergency Telephone - IN CASE OF EMERGENCY CALL: +44 1865 407333 (24hr, Provided by Carechem 24)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids	Category 3 - (H226)

2.2. Label elements

Signal word
Warning

Hazard statements
H226 - Flammable liquid and vapour

Precautionary Statements - EU (§28, 1272/2008)
P102 - Keep out of reach of children.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

The product contains no substances which at their given concentration, are considered to be hazardous to health

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Ethanol 64-17-5	60-100	01-2119457610-43-0000	200-578-6	Flam. Liq. 2 (H225)	-	-	-

Glycerol 56-81-5	1-5	No data available	200-289-5	-	-	-	-
Propane-1,2-diol 57-55-6	0.1-1	01-2119456809-23-0000	200-338-0	-	-	-	-
2-Methylpropan-2-ol 75-65-0	<0.1	No data available	200-889-7	Acute Tox. 4 (H332) Eye Irrit. 2 (H319) STOT SE 3 (H335) Flam. Liq. 2 (H225)	-	-	-
Cyclohexane 110-82-7	<0.1	01-2119463273-41-0000	203-806-2	Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400) Skin Irrit. 2 (H315) STOT SE 3 (H336) Flam. Liq. 2 (H225)	-	-	-

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

Acute Toxicity Estimate

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Ethanol 64-17-5	7060	No data available	116.9 133.8	No data available	No data available
Glycerol 56-81-5	12600	10000	2.75	No data available	No data available
Propane-1,2-diol 57-55-6	20000	20800	No data available	No data available	No data available
2-Methylpropan-2-ol 75-65-0	2200	2000	No data available	30.3149	No data available
Cyclohexane 110-82-7	12705	2000	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion Rinse mouth.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information.

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

Symptoms No information available.

Effects of Exposure None.

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

Note to doctors Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

Other information Ventilate the area.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand

or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

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

Advice on safe handling Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapours or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

Storage class (TRGS 510) LGK 3.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Ethanol 64-17-5	-	TWA: 1000 ppm TWA: 1900 mg/m^3 STEL 2000 ppm STEL 3800 mg/m^3	TWA: 1000 ppm TWA: 1907 mg/m^3	TWA: 1000 mg/m^3	TWA: 1000 ppm TWA: 1900 mg/m^3
Glycerol 56-81-5	-	-	TWA: 10 mg/m^3	-	TWA: 10 mg/m^3

Propane-1,2-diol 57-55-6	-	-	-	-	TWA: 150 ppm TWA: 474 mg/m³ TWA: 10 mg/m³
2-Methylpropan-2-ol 75-65-0	-	TWA: 20 ppm TWA: 62 mg/m³ STEL 80 ppm STEL 248 mg/m³	TWA: 100 ppm TWA: 307 mg/m³	-	TWA: 100 ppm TWA: 308 mg/m³ STEL: 150 ppm STEL: 462 mg/m³
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m³	TWA: 200 ppm TWA: 700 mg/m³ STEL 800 ppm STEL 2800 mg/m³	TWA: 100 ppm TWA: 350 mg/m³	TWA: 200 ppm TWA: 700.0 mg/m³	TWA: 200 ppm TWA: 700 mg/m³ *

Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Ethanol 64-17-5	-	TWA: 1000 mg/m³ Ceiling: 3000 mg/m³	TWA: 1000 ppm TWA: 1900 mg/m³ STEL: 2000 ppm STEL: 3800 mg/m³	TWA: 500 ppm TWA: 1000 mg/m³ STEL: 1000 ppm STEL: 1900 mg/m³	TWA: 1000 ppm TWA: 1900 mg/m³ STEL: 1300 ppm STEL: 2500 mg/m³
Glycerol 56-81-5	-	TWA: 10 mg/m³ Ceiling: 15 mg/m³	-	TWA: 10 mg/m³	TWA: 20 mg/m³
2-Methylpropan-2-ol 75-65-0	-	TWA: 300 mg/m³ Ceiling: 600 mg/m³ D*	Ceiling: 50 ppm Ceiling: 150 mg/m³ H*	TWA: 50 ppm TWA: 150 mg/m³ STEL: 75 ppm STEL: 250 mg/m³ A*	TWA: 50 ppm TWA: 150 mg/m³ STEL: 75 ppm STEL: 230 mg/m³ iho*
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m³	TWA: 700 mg/m³ Ceiling: 2000 mg/m³	TWA: 50 ppm TWA: 172 mg/m³ STEL: 100 ppm STEL: 344 mg/m³	TWA: 200 ppm TWA: 700 mg/m³	TWA: 100 ppm TWA: 350 mg/m³ STEL: 250 ppm STEL: 875 mg/m³

Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Ethanol 64-17-5	TWA: 1000 ppm TWA: 1900 mg/m³ STEL: 5000 ppm STEL: 9500 mg/m³	TWA: 200 ppm TWA: 380 mg/m³	TWA: 200 ppm TWA: 380 mg/m³ Peak: 800 ppm Peak: 1520 mg/m³	TWA: 1000 ppm TWA: 1900 mg/m³	TWA: 1000 ppm TWA: 1900 mg/m³ STEL: 2000 ppm STEL: 3800 mg/m³
Glycerol 56-81-5	TWA: 10 mg/m³	TWA: 200 mg/m³	TWA: 200 mg/m³ Peak: 400 mg/m³	TWA: 10 mg/m³	-
2-Methylpropan-2-ol 75-65-0	TWA: 100 ppm TWA: 300 mg/m³	TWA: 20 ppm TWA: 62 mg/m³	TWA: 20 ppm TWA: 62 mg/m³ Peak: 80 ppm Peak: 248 mg/m³	TWA: 100 ppm TWA: 300 mg/m³ STEL: 150 ppm STEL: 450 mg/m³	-
2-Amino-2-methylpropanol 124-68-5	-	TWA: 1 ppm TWA: 3.7 mg/m³ H*	TWA: 1 ppm TWA: 3.7 mg/m³ Peak: 2 ppm Peak: 7.4 mg/m³ *	-	-
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m³ STEL: 375 ppm STEL: 1300 mg/m³	TWA: 200 ppm TWA: 700 mg/m³	TWA: 200 ppm TWA: 700 mg/m³ Peak: 800 ppm Peak: 2800 mg/m³	TWA: 200 ppm TWA: 700 mg/m³	TWA: 200 ppm TWA: 700 mg/m³

Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Ethanol 64-17-5	STEL: 1000 ppm	-	STEL: 1000 ppm STEL: 1884 mg/m³	TWA: 1000 mg/m³	STEL: 1000 ppm STEL: 1900 mg/m³ TWA: 500 ppm TWA: 1000 mg/m³
Propane-1,2-diol 57-55-6	TWA: 10 mg/m³ TWA: 150 ppm TWA: 470 mg/m³ STEL: 1410 mg/m³ STEL: 30 mg/m³ STEL: 450 ppm	-	-	TWA: 7 mg/m³	TWA: 7 mg/m³

2-Methylpropan-2-ol 75-65-0	TWA: 100 ppm TWA: 300 mg/m³ STEL: 300 ppm STEL: 900 mg/m³	-	TWA: 100 ppm TWA: 303 mg/m³	TWA: 10 mg/m³	STEL: 75 ppm STEL: 250 mg/m³ TWA: 50 ppm TWA: 150 mg/m³ O*
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m³ STEL: 600 ppm STEL: 2100 mg/m³	TWA: 100 ppm TWA: 350 mg/m³	TWA: 100 ppm TWA: 344 mg/m³	TWA: 23 ppm TWA: 80 mg/m³	TWA: 200 ppm TWA: 700 mg/m³

Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Ethanol 64-17-5	-	-	TWA: 137 ppm TWA: 260 mg/m³ STEL: 1000 ppm STEL: 1900 mg/m³ H*	TWA: 500 ppm TWA: 950 mg/m³ STEL: 625 ppm STEL: 1187.5 mg/m³	TWA: 1900 mg/m³
Glycerol 56-81-5	-	-	-	-	TWA: 10 mg/m³
Propane-1,2-diol 57-55-6	-	-	-	TWA: 25 ppm TWA: 79 mg/m³ STEL: 37.5 ppm STEL: 118.5 mg/m³	TWA: 100 mg/m³
2-Methylpropan-2-ol 75-65-0	-	-	-	Ceiling: 25 ppm Ceiling: 75 mg/m³ H*	STEL: 450 mg/m³ TWA: 300 mg/m³
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m³	TWA: 200 ppm TWA: 700 mg/m³	TWA: 200 ppm TWA: 700 mg/m³ STEL: 400 ppm STEL: 1400 mg/m³	TWA: 150 ppm TWA: 525 mg/m³ STEL: 187.5 ppm STEL: 656.25 mg/m³	STEL: 1000 mg/m³ TWA: 300 mg/m³ skóra*

Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m³ STEL: 5000 ppm STEL: 9500 mg/m³	TWA: 500 ppm TWA: 960 mg/m³ Ceiling: 1920 mg/m³	TWA: 960 mg/m³ TWA: 500 ppm STEL: 1000 ppm STEL: 1920 mg/m³	STEL: 1000 ppm STEL: 1910 mg/m³
Glycerol 56-81-5	TWA: 10 mg/m³	-	TWA: 11 mg/m³	TWA: 200 mg/m³ STEL: 400 mg/m³	TWA: 10 mg/m³
2-Methylpropan-2-ol 75-65-0	TWA: 100 ppm	-	TWA: 20 ppm TWA: 62 mg/m³ Ceiling: 250 mg/m³	TWA: 20 ppm TWA: 62 mg/m³ STEL: 80 ppm STEL: 248 mg/m³	TWA: 100 ppm TWA: 308 mg/m³
2-Amino-2-methylpropanol 124-68-5	-	-	-	TWA: 3.7 mg/m³ TWA: 1 ppm STEL: 2 ppm STEL: 7.4 mg/m³ K*	-
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m³	TWA: 200 ppm TWA: 700 mg/m³	TWA: 200 ppm TWA: 700 mg/m³	TWA: 200 ppm TWA: 700 mg/m³ STEL: 2800 mg/m³ STEL: 800 ppm	TWA: 200 ppm TWA: 700 mg/m³

Chemical name	Sweden	Switzerland	United Kingdom
Ethanol 64-17-5	Vägledande KGV: 1000 ppm Vägledande KGV: 1900 mg/m³ NGV: 500 ppm NGV: 1000 mg/m³	TWA: 500 ppm TWA: 960 mg/m³ STEL: 1000 ppm STEL: 1920 mg/m³	TWA: 1000 ppm TWA: 1920 mg/m³ STEL: 3000 ppm STEL: 5760 mg/m³
Glycerol 56-81-5	-	TWA: 50 mg/m³ STEL: 100 mg/m³	TWA: 10 mg/m³ STEL: 30 mg/m³
Propane-1,2-diol 57-55-6	-	-	TWA: 150 ppm TWA: 474 mg/m³ TWA: 10 mg/m³

			STEL: 450 ppm STEL: 1422 mg/m³ STEL: 30 mg/m³
2-Methylpropan-2-ol 75-65-0	Vägledande KGV: 75 ppm Vägledande KGV: 250 mg/m³ NGV: 50 ppm NGV: 150 mg/m³ H*	TWA: 20 ppm TWA: 60 mg/m³ STEL: 80 ppm STEL: 240 mg/m³	TWA: 100 ppm TWA: 308 mg/m³ STEL: 150 ppm STEL: 462 mg/m³
2-Amino-2-methylpropanol 124-68-5	-	TWA: 2.4 ppm TWA: 8.7 mg/m³ STEL: 4.8 ppm STEL: 17.4 mg/m³ H*	-
Cyclohexane 110-82-7	NGV: 200 ppm NGV: 700 mg/m³	TWA: 200 ppm TWA: 700 mg/m³ STEL: 800 ppm STEL: 2800 mg/m³	TWA: 100 ppm TWA: 350 mg/m³ STEL: 300 ppm STEL: 1050 mg/m³

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Cyclohexane 110-82-7	-	-	-	150 mg/g Creatinine - urine (1,2-Cyclohexanediol) - at the end of the work shift; at chronic exposure after several successive shifts 450 µg/L - blood (Cyclohexanol) - during exposure 3.20 mg/g Creatinine - urine (Cyclohexanol) - during the second half of the work shift	-

Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Cyclohexane 110-82-7	-	-	-	150 mg/g Creatinine (urine - total 1,2-Cyclohexanediol (after hydrolysis) end of shift) 150 mg/g Creatinine (urine - total 1,2-Cyclohexanediol (after hydrolysis) for long-term exposures: at the end of the shift after several shifts) 150 mg/g Creatinine - BAT (for long-term exposures: at the end of the shift after several shifts) urine	150 mg/g Creatinine (urine - total 1,2-Cyclohexanediol (after hydrolysis) end of shift) 150 mg/g Creatinine (urine - total 1,2-Cyclohexanediol (after hydrolysis) for long-term exposures: at the end of the shift after several shifts)

Chemical name	Slovenia	Spain	Switzerland	United Kingdom

Cyclohexane 110-82-7	150 mg/g Creatinine - urine (1,2-Cyclohexanediol (after hydrolysis)) - at the end of the work shift; for long-term exposure: at the end of the work shift after several consecutive workdays	-	150 mg/g creatinine (urine - total 1,2-Cyclohexanediol end of shift, and after several shifts (for long-term exposures)) 146 µmol/mmol creatinine (urine - total 1,2-Cyclohexanediol end of shift, and after several shifts (for long-term exposures))	-

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Ethanol 64-17-5	-	343 mg/kg bw/day [4] [6]	950 mg/m³ [4] [6] 1900 mg/m³ [5] [7]
Glycerol 56-81-5	-	-	56 mg/m³ [5] [6]
Propane-1,2-diol 57-55-6	-	-	168 mg/m³ [4] [6] 10 mg/m³ [5] [6]
2-Methylpropan-2-ol 75-65-0	-	5.5 mg/kg bw/day [4] [6]	2.7 mg/m³ [4] [6] 214 mg/m³ [4] [7]
2-Amino-2-methylpropanol 124-68-5	-	7.3 mg/kg bw/day [4] [6]	6.5 mg/m³ [4] [6]
Cyclohexane 110-82-7	-	2016 mg/kg bw/day [4] [6]	700 mg/m³ [4] [6] 1400 mg/m³ [4] [7] 700 mg/m³ [5] [6] 1400 mg/m³ [5] [7]

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Ethanol 64-17-5	87 mg/kg bw/day [4] [6]	-	114 mg/m³ [4] [6] 950 mg/m³ [5] [7]
Glycerol 56-81-5	229 mg/kg bw/day [4] [6]	-	33 mg/m³ [5] [6]
Propane-1,2-diol 57-55-6	-	-	50 mg/m³ [4] [6] 10 mg/m³ [5] [6]
2-Methylpropan-2-ol 75-65-0	0.3 mg/kg bw/day [4] [6]	-	0.5 mg/m³ [4] [6] 159.8 mg/m³ [4] [7]
2-Amino-2-methylpropanol 124-68-5	0.46 mg/kg bw/day [4] [6]	-	1.6 mg/m³ [4] [6]
Cyclohexane 110-82-7	59.4 mg/kg bw/day [4] [6]	-	206 mg/m³ [4] [6] 412 mg/m³ [4] [7] 206 mg/m³ [5] [6] 412 mg/m³ [5] [7]

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Glycerol 56-81-5	0.885 mg/L	8.85 mg/L	0.0885 mg/L	-	-
Propane-1,2-diol 57-55-6	260 mg/L	183 mg/L	26 mg/L	-	-
2-Methylpropan-2-ol 75-65-0	2 mg/L	9.33 mg/L	0.2 mg/L	-	-
2-Amino-2-methylpropanol 124-68-5	0.188 mg/L	1.88 mg/L	0.0188 mg/L	-	-
Cyclohexane 110-82-7	0.207 mg/L	0.207 mg/L	0.207 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Glycerol 56-81-5	3.3 mg/kg sediment dw	0.33 mg/kg sediment dw	1000 mg/L	0.141 mg/kg soil dw	-
Propane-1,2-diol 57-55-6	572 mg/kg sediment dw	57.2 mg/kg sediment dw	20000 mg/L	50 mg/kg soil dw	-
2-Methylpropan-2-ol 75-65-0	8.04 mg/kg sediment dw	0.804 mg/kg sediment dw	690 mg/L	1 mg/kg soil dw	88700 g/kg food
2-Amino-2-methylpropanol 124-68-5	0.71 mg/kg sediment dw	0.071 mg/kg sediment dw	10 mg/L	0.03 mg/kg soil dw	-
Cyclohexane 110-82-7	16.68 mg/kg sediment dw	16.68 mg/kg sediment dw	3.24 mg/L	3.38 mg/kg soil dw	-

8.2. Exposure controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

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	Liquid
Colour	Colourless
Odour	Alcohol.
Odour threshold	No information available

Property	**Values**	**Remarks • Method**
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	24 °C	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	pH (concentrated solution): 7-8
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	4000 cSt @ 23°C	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	No data available	None known
Relative density	0.869-0.903 @ 20°C	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapour density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regards to physical hazard classes

Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidizing.

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 10,098.70 mg/kg
ATEmix (dermal) 268,319.00 mg/kg
ATEmix (inhalation-gas) 99,999.00 ppm
ATEmix (inhalation-vapour) 99,999.00 mg/l
ATEmix (inhalation-dust/mist) 275.00 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ethanol	= 7060 mg/kg (Rat)	-	= 116.9 mg/L (Rat) 4 h = 133.8 mg/L (Rat) 4 h
Glycerol	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 2.75 mg/L (Rat) 4 h
Propane-1,2-diol	= 20 g/kg (Rat)	= 20800 mg/kg (Rabbit)	-
2-Methylpropan-2-ol	= 2200 mg/kg (Rat)	> 2 g/kg (Rabbit)	> 10000 ppm (Rat) 4 h
Cyclohexane	= 12705 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 32880 mg/m³ (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ethanol	-	LC50: 12.0 - 16.0mL/L (96h, Oncorhynchus mykiss) LC50: >100mg/L (96h, Pimephales promelas) LC50: 13400 - 15100mg/L	-	LC50: 9268 - 14221mg/L (48h, Daphnia magna) EC50: =2mg/L (48h, Daphnia magna)

		(96h, Pimephales promelas)		
Glycerol	-	LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss)	-	-
Propane-1,2-diol	EC50: =19000mg/L (96h, Pseudokirchneriella subcapitata)	LC50: =51600mg/L (96h, Oncorhynchus mykiss) LC50: 41 - 47mL/L (96h, Oncorhynchus mykiss) LC50: =51400mg/L (96h, Pimephales promelas) LC50: =710mg/L (96h, Pimephales promelas)	-	EC50: >1000mg/L (48h, Daphnia magna)
2-Methylpropan-2-ol	EC50: >1000mg/L (72h, Desmodesmus subspicatus)	LC50: 6130 - 6700mg/L (96h, Pimephales promelas)	-	EC50: =933mg/L (48h, Daphnia magna) EC50: 4607 - 6577mg/L (48h, Daphnia magna)
Cyclohexane	EC50: >500mg/L (72h, Desmodesmus subspicatus)	LC50: 3.96 - 5.18mg/L (96h, Pimephales promelas) LC50: 23.03 - 42.07mg/L (96h, Pimephales promelas) LC50: 24.99 - 44.69mg/L (96h, Lepomis macrochirus) LC50: 48.87 - 68.76mg/L (96h, Poecilia reticulata)	-	-

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
Ethanol	-0.35
Glycerol	-1.75
Propane-1,2-diol	-1.07
2-Methylpropan-2-ol	0.317
Cyclohexane	3.44

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Ethanol	The substance is not PBT / vPvB
Glycerol	The substance is not PBT / vPvB
Propane-1,2-diol	The substance is not PBT / vPvB PBT assessment does not apply
2-Methylpropan-2-ol	The substance is not PBT / vPvB

Cyclohexane	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	UN1170
14.2 UN proper shipping name	Ethanol
14.3 Transport hazard class(es)	3
14.4 Packing group	III
Description	UN1170, Ethanol, 3, III
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	A180, A3, A58
ERG Code	3L

IMDG

14.1 UN number or ID number	UN1170
14.2 UN proper shipping name	Ethanol
14.3 Transport hazard class(es)	3
14.4 Packing group	III
Description	UN1170, Ethanol, 3, III, (24°C c.c.)
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	144, 223
EmS-No.	F-E, S-D
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN1170
14.2 UN proper shipping name	Ethanol solution
14.3 Transport hazard class(es)	3
14.4 Packing group	III
Description	UN1170, Ethanol solution, 3, III
14.5 Environmental hazards	Not applicable

14.6 Special precautions for user

Special Provisions	144, 601
Classification code	F1

ADR

14.1 UN number or ID number	UN1170
14.2 UN proper shipping name	Ethanol solution
14.3 Transport hazard class(es)	3
14.4 Packing group	III
Description	UN1170, Ethanol solution, 3, III, (D/E)
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	144, 601
Classification code	F1
Tunnel restriction code	(D/E)

SECTION 15: Regulatory information

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

National regulations

Chemical name	French RG number
Ethanol - 64-17-5	RG 84
Propane-1,2-diol - 57-55-6	RG 84
2-Methylpropan-2-ol - 75-65-0	RG 84
Cyclohexane - 110-82-7	RG 84

Germany

Water hazard class (WGK) slightly hazardous to water (WGK 1)

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
Ethanol	Present	-	Fertility Category 1A Development Category 1A Can be harmful via breastfeeding

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.

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
2-Methylpropan-2-ol - 75-65-0	Use restricted. See item 75.	-
Cyclohexane - 110-82-7	Use restricted. See item 57. Use restricted. See item 75.	-

Persistent Organic Pollutants

Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)
P5a - FLAMMABLE LIQUIDS
P5b - FLAMMABLE LIQUIDS
P5c - FLAMMABLE LIQUIDS

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not applicable

Chemical name	Biocidal Products Regulation (EU) No 528/2012 (BPR)
Ethanol - 64-17-5	Product-type 1: Human hygiene Product-type 2: Disinfectants and algaecides not intended for direct application to humans or animals Product-type 4: Food and feed area

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - 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
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

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
H225 - Highly flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation

H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects

Legend
SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

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

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method
Flammable liquids	On basis of test data

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications

Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
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End of Safety Data Sheet