

1. IDENTIFICATION OF SUBSTANCES / MIXTURE AND OF THE COMPANY / UNDERTAKING**Product Identifiers**Product Name: **Ecoclear De-bonding Fluid**

Product code: OCON-178

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

Identified uses: Investigational research by professional users.

Uses advised against: This product is to be used only for the purpose stated above.

Details of the supplier of the safety data sheetManufacturer: Logitech Ltd
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Scotland, UK

Telephone +44 (0) 1389 875444

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Emergency telephone number

+44 (0) 1389 875444 (09:00 – 17:00 Monday to Friday)

2. HAZARDS IDENTIFICATION**Classification according to Regulation (EC) 1272/2008 [EU-GHS/CLP]**

Skin irritation	Category 2	H315 – Skin corrosion/irritation
Skin Sensitization	Category 1	H317 – Skin sensitizer
Acute aquatic toxicity	Category 1	H410 - Very toxic to aquatic life with long lasting effects
Chronic aquatic toxicity	Category 1	
Flammable liquid	Category 3	H226 - Flammable liquids

Label elements**Labelling elements according to Regulation (EC) 1272/2008 (EU 'CLP' regulation)**

Pictogram (s):

**Signal Word: DANGER**

H226 - Flammable liquid and vapor.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H410 - Very toxic to aquatic life with long lasting effects.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician .

P331 - Do NOT induce vomiting.

P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

Other hazards

None found.

3. COMPOSITION / INFORMATION ON INGREDIENTS

This material is a substance.

Chemical Names/Description

Distilled essential oils - food grade

Chemical Formula

C10H16

Component	CAS No.	EC No.	%
d-limonene	5989-27-5	227-813-5	100

4. FIRST AID MEASURES**Description of first aid measures****General advice**

Remove from source of exposure.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion

Do not induce vomiting. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

Skin contact

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye contact

Remove contact lenses at once. Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately..

Most important symptoms and effects, both acute and delayed**Inhalation**

May include dizziness, headaches, and nasal irritation.

Ingestion

May include nausea, vomiting, and headache.

Skin

May include drying and redness (dermatitis) of the skin.

Eyes

May include redness, itching, and watering of the eyes.

Indication of any immediate medical attention and special treatment needed

Unknown/not applicable.

5. FIRE-FIGHTING MEASURES**Extinguishing media**

Dry powder, foam, carbon dioxide. (Water may be ineffective.)

Special hazards arising from the substances or mixture

Hazardous Combustion Products

Thermal decomposition products may include carbon monoxide, carbon dioxide, and hydrocarbons.

Hazardous Decomposition Products

Carbon monoxide and unidentified organic compounds may be formed during combustion.

Hazardous Polymerization

Will not occur under normal conditions of use (See Sections 10).

Advice for fire fighters

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear appropriate protective equipment as specified in Section 8.

Environmental precautions

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

Methods and material for containment and cleaning up

Eliminate source of ignition. Ventilate area. Cover with absorbent material (soda ash) to confine spill and sweep or shovel into container. Close container tightly..

Reference to any other sections

See section 8 for information on Personal protective equipment (PPE)

See section 13 for disposal information

7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Keep in a tightly closed container, stored in a cooled, dry, ventilated area away from sources of heat or ignition. Protect from physical damage. Isolate from incompatible materials. Avoid contact with strong acids, alkalis, or oxidizing agents.

Specific end use(s)

Investigational research by professional users

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

ACGIH Threshold Limit Value (TLV): None established

OSHA Permissible Exposure Limit (PEL): None established

There is no UK Workplace Exposure Limit (WEL) or EU Indicative Occupational Exposure Limit Value (IOELV) for this material.

This does NOT mean that exposure to vapour does not need to be controlled.

Exposure limits may be specified in other countries. Check national legislation for appropriate exposure limits.

Exposure should be controlled to avoid exceeding the specified limits.

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available

Exposure controls

Engineering Controls

Local exhaust should be adequate.

Respiratory Protection

Not expected to require personal respirator usage, but if vapor concentration becomes high, use NIOSH/MSHA approved self-contained air mask.

Eye Protection

Safety glasses.

Skin Protection

Wear protective gloves and clean body covering clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemicals properties

Appearance:	Clear, colourless liquid
Odour:	Citrus
Odour threshold:	N/A
pH:	N/A
Melting point:	0°C
Boiling point:	179 °C
Flash point:	49 °C
Evaporation rate	0.2 (BuAc=1)
Flammability	Combustible
Upper/lower explosive limits	Upper 6.1% vol Lower 0.7 % vol
Vapour pressure	6.0 mm HG @ 25 C
Vapour density	4.94 (air = 1)
Density	0.85 g/ml @ 25 C
Log P (o/w)	information not available
Solubility in water:	Insoluble
Solubility in other	
Ingredients:	information not available
Partition coefficient	
Octanol/water:	log Kow=4.38
Auto-ignition temperature	237 °C
Decomposition temperature	None under ordinary use and conditions
Viscosity	information not available
Ignition temperature	information not available
Explosive properties	Oxidizeable vapors
Oxidising properties:	Not oxidising.

Other information

No additional data available

10. STABILITY AND REACTIVITY

Reactivity

Oxidizable liquid and vapor – avoid heat, oxidizers and ignition sources

Chemical stability

Stable under normal conditions of use. Incompatible with strong oxidizing agents.

Possibility of hazardous reactions

No hazardous reactions known under normal conditions of use

Conditions to avoid

Heat and ignition sources

Incompatible materials

Avoid contact with oxidizing agents, strong acids or alkalis.

Hazardous decomposition products

Carbon monoxide and unidentified organic compounds may be formed during combustion.

11. TOXICOLOGICAL INFORMATION

Product LD50 Values**Oral Rat LD50 (mg/kg)**

GRAS (Generally Regarded As Safe)

Dermal Rabbit LD50 (mg/kg)

GRAS (Generally Regarded As Safe)

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
d-limonene	No	No	None

Potential Health Effects**Inhalation**

Inhalation can cause nose, throat, and respiratory tract irritation. Prolonged exposure to high vapor or mist concentrations may cause dizziness, headaches, and nasal irritation.

Ingestion

Ingestion may cause vomiting, headache, and other medical problems.

Skin

Repeated or prolonged contact can cause redness, irritation, and scaling of the skin (dermatitis). Normal care and personal hygiene should prevent skin effects.

Eyes

Eye irritation may occur with exposure to concentrated vapors or contact with product.

Carcinogenicity

None of the components of this material are listed by NTP, OSHA, ACGIH, or IARC as a carcinogen or a suspected carcinogen.

Mutagenicity

No information available.

Reproductive Toxicity

No information available.

Teratogenic Effects

No information available.

Routes of Entry

May be absorbed through the skin, by inhalation, or by ingestion.

Target Organ Statement

No information available

12. ECOLOGICAL INFORMATION

Toxicity

Aquatic Toxicity
(ppm unless otherwise noted)

Vertebrates LC50 (96hr fathead minnod): 720ug/L	Invertebrates EC50 (48hrs, Daphnia) 036mg/L	Algae EC50 (72hrs) 8mg/L	Microorganisms EC50 (3hr) 209mg/L
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Terrestrial Environment Toxicity
(ppm unless otherwise noted)

Birds No data	Arthropods No data	Plants No data	Microorganisms No data
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Persistence and Degradability

Readily biodegradable

Bioaccumulative Potential

BCF is 1022 L/kg (calculated)

Mobility in Soil

Koc of d-limonene (predicted): 1984 L/kg

Results of PBT and vPvB Assessment

Not a PBT or vPvB

Other Adverse Effects

No data

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

14. TRANSPORT INFORMATION

	ADR/RID	IMO	IATA	DOT
UN Number	2319	2319	2319	N/A
UN proper shipping name	Terpene Hydrocarbons N.O.S (d-limonene)	Terpene Hydrocarbons N.O.S (d-limonene)	Terpene Hydrocarbons N.O.S (d-limonene)	Not regulated
Transport hazard class(s)	3	3	3	N/A
Packing group	III	III	III	N/A
Environmental Hazards	N/A	N/A	N/A	N/A
Special Precautions	N/A	N/A	N/A	N/A

15. REGULATORY INFORMATION

This Safety Data Sheet has been prepared in accordance with the requirements of regulation (EC) No 1907/2006 as amended by regulation (EU) No 453/2010.

Workplace exposure Limits given in section 8 have been taken from the UK HSE document: EH40/2005 Workplace exposure limits as amended.

Relevant regulations:

Regulation (EC) 1272/2008 (EU 'CLP' regulation)

Regulation (EC) 790/2009 First Adaptation to Technical Progress (ATP) for CLP regulation

Regulation (EC) 286/2011 Second Adaptation to Technical Progress (ATP) for CLP regulation

EU Directive 67/548/EEC ('Dangerous Substances Directive')

Regulation (EC) No 1907/2006 ('REACH')

Regulation (EU) No 453/2010.

DSEAR: Dangerous Substances and Explosive Atmospheres Regulations 2002

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

None identified

Chemical safety assessment

A Chemical Safety Assessment has not been undertaken for this product.

16. OTHER INFORMATION

The information contained in the Safety Data Sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, storage, transportation and disposal. It is not intended as a warranty or specification. The information relates only to the product specified and may not be suitable for combinations with other materials.