

SAFETY DATA SHEET UFR UNIVERSAL FLUX REMOVER, AEROSOL

According to the Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013, as amended.

SECTION 1: identification of the hazardous chemical and of the supplier

Product identifier

Product name UFR UNIVERSAL FLUX REMOVER, AEROSOL

Product number MCC-UFR10A, MCC-UFR10Y

Recommended use of the substance or mixture and restrictions on use

Identified uses Cleaning agent.

Details of the supplier of the safety data sheet

Supplier MICROCARE ASIA PTE LTD

102E, Pasir Panjang Road,

Citilink, #05-06, Singapore 118529 (65) 6271.0182

techsupport@microcare.com

Manufacturer MICROCARE LLC

595 John Downey Drive New Britain, CT 06051 United States of America

CAGE: OATV9

Tel: +1 800-638-0125, +1 860-827-0626

techsupport@microcare.com

Emergency telephone number

Emergency telephone INFOTRAC +65 3163 5349 (SINGAPORE)

1-352-323-3500 (from anywhere in the world)

SECTION 2: Hazard identification

Classification of the substance or mixture

Classification

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Aquatic Chronic 3 - H412

Human health Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Mild

dermatitis, allergic skin rash.

Environmental The product contains a substance which is harmful to aquatic organisms and which may

cause long-term adverse effects in the aquatic environment.

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Physicochemical Vapours are heavier than air and may travel along the floor and accumulate in the bottom of

containers. Not considered to be a significant hazard due to the small quantities used. Gas or

vapour displaces oxygen available for breathing (asphyxiant).

Label elements

Hazard statements H412 Harmful to aquatic life with long lasting effects.

Precautionary statements P210 Keep away from heat/ sparks/ open flames /hot surfaces – No smoking.

P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.

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

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50oC/122oF.

P501 Dispose of contents/ container in accordance with local regulations.

Supplemental label

EUH210 Safety data sheet available on request. RCH001a For use in industrial installations

only.

Supplementary precautionary

P273 Avoid release to the environment.

statements P501 Dispose of contents/ container in accordance with national regulations.

Other hazards

information

This product does not contain any substances classified as PBT or vPvB (persistent, bioaccumulative and toxic, or very persistent and very bioaccumulative).

SECTION 3: Composition and information of the ingredients of the hazardous chemical

Mixtures

trans-1-Chloro-3,3,3-trifluoropropene

60-100%

CAS number: 102687-65-0

Classification

Press. Gas, Liquefied - H280 Aquatic Chronic 3 - H412

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE

10-30%

CAS number: 29118-24-9

Classification

Press. Gas, Liquefied - H280

ETHANOL 1-5%

CAS number: 64-17-5

Classification

Flam. Liq. 2 - H225

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METHANOL	<1%
CAS number: 67-56-1	
Classification	
Flam. Liq. 2 - H225	
Acute Tox. 3 - H301	
Acute Tox. 3 - H311	
Acute Tox. 3 - H331	
Eye Irrit. 2 - H319	
Repr. 1B - H360	

4-Methylpentan-2-one
CAS number: 108-10-1

Classification
Flam. Liq. 2 - H225
Acute Tox. 4 - H332
Eye Irrit. 2 - H319
STOT SE 3 - H335

Ethyl acetate
CAS number: 141-78-6

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2 - H319
STOT SE 3 - H336

The full text for all hazard statements is displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

Composition

STOT SE 1 - H370

SECTION 4: First-aid measures

Description of first aid measures

General information Never give anything by mouth to an unconscious person. Do not induce vomiting. Place

unconscious person on the side in the recovery position and ensure breathing can take place.

If breathing stops, provide artificial respiration. Consult a physician for specific advice.

Inhalation Remove affected person from source of contamination. Move affected person to fresh air and

keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical

attention.

Ingestion Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not

enter the lungs. Never give anything by mouth to an unconscious person. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical

attention.

Skin contact Remove contaminated clothing and rinse skin thoroughly with water.

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Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15

minutes. Consult a physician for specific advice.

Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the

length of exposure. Get medical attention promptly if symptoms occur after washing.

Inhalation Upper respiratory irritation. Vapours are heavier than air and may travel along the floor and

> accumulate in the bottom of containers. Gas or vapour displaces oxygen available for breathing (asphyxiant). Une inhalation prolongée ou excessive peut irriter les voies

respiratoires.

Ingestion May cause stomach pain or vomiting. Diarrhoea. May cause nausea, headache, dizziness

and intoxication. Fumes from the stomach contents may be inhaled, resulting in the same

symptoms as inhalation.

Skin contact Skin irritation. This product is rapidly absorbed through the skin and may cause symptoms

similar to those of ingestion.

Eye contact Irritating to eyes. Symptoms following overexposure may include the following: Redness.

Pain. May cause blurred vision and serious eye damage.

Indication of any immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

Special hazards arising from the substance or mixture

Specific hazards Keep away from heat, sparks and open flame. Thermal decomposition or combustion

> products may include the following substances: Toxic and corrosive gases or vapours. Aerosol containers can explode when heated, due to excessive pressure build-up.

Hazardous combustion

products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon. Fire or high temperatures create: Carbonyl compounds. Mineral

acids.

Advice for fire-fighters

Protective actions during

firefighting

Move containers from fire area if it can be done without risk. Bursting aerosol containers may be propelled from a fire at high speed.

Special protective equipment

for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Warn everybody of potential hazards and evacuate if necessary. Provide adequate ventilation.

Avoid inhalation of vapours. Use approved respirator if air contamination is above an

acceptable level.

Environmental precautions

Environmental precautions Contain spillage with sand, earth or other suitable non-combustible material. Avoid release to

the environment.

Methods and material for containment and cleaning up

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Methods for cleaning up

Provide adequate ventilation. Contain spillage with sand, earth or other suitable non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely.

Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Usage precautions Provide adequate ventilation. Avoid inhalation of vapours/spray and contact with skin and

eyes. Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours. Keep

out of the reach of children.

Conditions for safe storage, including any incompatibilities

Storage precautions Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C.

Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

Reference to other sections. Store away from incompatible materials (see Section 10).

SECTION 8: Exposure controls and personal protection

Control parameters

Occupational exposure limits

ETHANOL

Eight-hour time-weighted average: PEL 1000 ppm 1880 mg/m³

METHANOL

Eight-hour time-weighted average: PEL 200 ppm 262 mg/m³

skin

4-Methylpentan-2-one

Eight-hour time-weighted average: PEL 50 ppm 205 mg/m³

Ethyl acetate

Eight-hour time-weighted average: PEL 400 ppm 1440 mg/m³

Permissible exposure limit (PEL)

skin = Refers to the potential contribution to the overall exposure by the cutaneous route including mucous membrances and eye, either by air-boRefers to the potential contribution to the overall exposure by the cutaneous route including mucous membranes and eye, either by air-borne or more particularly, by direct contact with the substance.

trans-1-Chloro-3,3,3-trifluoropropene (CAS: 102687-65-0)

Ingredient comments No exposure limits known for ingredient(s).

Exposure controls

Protective equipment





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Appropriate engineering

controls

No specific ventilation requirements. This product must not be handled in a confined space

without adequate ventilation.

Eyewface protection Eyewear complying with an approved standard should be worn if a risk assessment indicates

eye contact is possible. Unless the assessment indicates a higher degree of protection is

required, the following protection should be worn: Tight-fitting safety glasses.

Hand protection Chemical-resistant, impervious gloves complying with an approved standard should be worn if

a risk assessment indicates skin contact is possible. It is recommended that gloves are made of the following material: Nitrile rubber. Polyvinyl alcohol (PVA). Viton rubber (fluoro rubber).

Other skin and body

protection

Wear suitable protective clothing as protection against splashing or contamination. Wear

apron or protective clothing in case of contact.

Hygiene measures No specific hygiene procedures recommended but good personal hygiene practices should

always be observed when working with chemical products. When using do not eat, drink or

smoke.

Respiratory protection Considering the size of the packaging, the risk is regarded as minimal. Vapours are heavier

than air and may travel along the floor and accumulate in the bottom of containers. In confined or poorly-ventilated spaces, a supplied-air respirator must be worn. Wear self-contained

breathing apparatus with full facepiece.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance Aerosol. Liquid. Gas

Colour Clear liquid. Colourless.

Odour Slight.

Odour threshold No information available.

pH Not applicable.Melting point Not applicable.

Initial boiling point and range 19°C/66°F @ 101.3 kPa

Flash point Not applicable. The product is not flammable.

Evaporation rate Not determined.

Evaporation factor No information available.

Upper/lower flammability or

explosive limits

Not applicable.

Other flammability No information available.

Vapour pressure 1.91 kPa @ 20°C

Vapour density >1

Relative density 1.24

Bulk density No information available.

Solubility(ies) Slightly soluble in water.

Partition coefficient No information available.

Auto-ignition temperature No information available.

Decomposition temperature No information available.

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No information available. Viscosity

Global Warming Potential

(GWP)

Surface tension

Refractive index No information available.

Particle size No information available.

Molecular weight No information available.

Volatility 100%

Saturation concentration No information available. Critical temperature No information available.

Volatile organic compound This product contains a maximum VOC content of 59 g/litre.

Heat of vaporization (at boiling

point), cal/g (Btu/lb)

SECTION 10: Stability and reactivity

Reactivity There are no known reactivity hazards associated with this product.

Stability Stable at normal ambient temperatures and when used as recommended.

Possibility of hazardous

reactions

Will not polymerise.

Conditions to avoid Keep away from heat, sparks and open flame. Thermal decomposition or combustion

products may include the following substances: Toxic and corrosive gases or vapours.

Materials to avoid Alkali metals. Alkaline earth metals.

Hazardous decomposition

products

Heating may generate the following products: Toxic and corrosive gases or vapours.

Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon dioxide (CO2). Carbon monoxide

(CO).

SECTION 11: Toxicological information

Information on toxicological effects

Other health effects There is no evidence that the product can cause cancer.

Acute toxicity - oral

ATE oral (mg/kg) 50,384.18

Acute toxicity - dermal

ATE dermal (mg/kg) 151,152.54

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 1,511.53 251.92

ATE inhalation (dusts/mists

mg/l)

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Inhalation Vapours may irritate throat/respiratory system. A single exposure may cause the following

adverse effects: Coughing. Difficulty in breathing.

Ingestion May cause stomach pain or vomiting. May cause nausea, headache, dizziness and

intoxication.

Skin contact Product has a defatting effect on skin. May cause allergic contact eczema.

Eye contact May cause temporary eye irritation.

Medical symptoms Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following

overexposure may include the following: Headache. Fatigue. Nausea, vomiting.

Toxicological information on ingredients

trans-1-Chloro-3,3,3-trifluoropropene

Acute toxicity - oral

Notes (oral LD₅₀) No information available.

Acute toxicity - dermal

Notes (dermal LD₅₀) No information required.

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ gases ppmV)

120,000.0

Species Rat

ATE inhalation (gases

ppmV)

120,000.0

Inhalation Vapours may irritate throat/respiratory system. A single exposure may cause the

following adverse effects: Coughing. Difficulty in breathing.

Ingestion May cause stomach pain or vomiting. May cause nausea, headache, dizziness and

intoxication.

Skin contact Product has a defatting effect on skin. May cause allergic contact eczema.

Eye contact May cause temporary eye irritation.

Medical symptoms Gas or vapour in high concentrations may irritate the respiratory system. Symptoms

following overexposure may include the following: Headache. Fatigue. Nausea,

vomiting.

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE

Acute toxicity - inhalation

Acute toxicity inhalation

(LC50 vapours mg/l)

965.0

Species Rat

ATE inhalation (vapours

mg/l)

965.0

ETHANOL

Acute toxicity - inhalation

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Acute toxicity inhalation

(LC50 vapours mg/l)

20,000.0

ATE inhalation (vapours

mg/l)

20,000.0

METHANOL

Acute toxicity - oral

Notes (oral LD₅₀) Acute Tox. 3 - H301 Toxic if swallowed.

ATE oral (mg/kg) 100.0

Acute toxicity - dermal

Notes (dermal LD50) Acute Tox. 3 - H311 Toxic in contact with skin.

300.0 ATE dermal (mg/kg)

Acute toxicity - inhalation

Acute Tox. 3 - H331 Toxic if inhaled. Notes (inhalation LC₅₀)

ATE inhalation (vapours

mg/l)

3.0

ATE inhalation 0.5

(dusts/mists mg/l)

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye

Based on available data the classification criteria are not met.

Respiratory sensitization

Respiratory sensitization Based on available data the classification criteria are not met.

Skin sensitization

damage/irritation

Skin sensitization Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

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

IARC carcinogenicity None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity -

Based on available data the classification criteria are not met.

Reproductive toxicity -

development

fertility

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure STOT SE 1 - H370 Causes damage to organs .

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Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

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

General information The severity of the symptoms described will vary dependent on the concentration

and the length of exposure.

Inhalation A single exposure may cause the following adverse effects: Drowsiness, dizziness,

disorientation, vertigo. Unconsciousness. High concentrations may be fatal.

Ingestion May cause stomach pain or vomiting. May cause severe internal injury.

Skin contact A single exposure may cause the following adverse effects: Pain.

Eye contact No specific symptoms known.

Route of entry Ingestion Inhalation Skin and/or eye contact

Target organs No specific target organs known.

4-Methylpentan-2-one

Carcinogenicity

IARC carcinogenicity IARC Group 2B Possibly carcinogenic to humans.

SECTION 12: Ecological Information

Ecotoxicity There are no data on the ecotoxicity of this product.

Ecological information on ingredients

trans-1-Chloro-3,3,3-trifluoropropene

Ecotoxicity The product contains a substance which is toxic to aquatic organisms and which

may cause long-term adverse effects in the aquatic environment.

METHANOL

Ecotoxicity Not regarded as dangerous for the environment. However, large or frequent spills

may have hazardous effects on the environment.

Ecological information on ingredients

trans-1-Chloro-3,3,3-trifluoropropene

Acute aquatic toxicity

Acute toxicity - fish , : , Oncorhynchus mykiss (Rainbow trout)

LC₅₀, 96 hours: 38 mg/l mg/l, Fish

Acute toxicity - aquatic

invertebrates

EC₅o, 48 hours: 82 mg/l, Freshwater invertebrates

Acute toxicity - aquatic

plants

EC₅₀, 72 hours: 106.7 mg/l, Freshwater algae NOEC, 72 hours: 115 mg/l, Freshwater algae

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE

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Acute aquatic toxicity

Acute toxicity - aquatic

invertebrates

EC₅₀, 48 hours: >160 mg/l, Daphnia magna

ETHANOL

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: >10,000 mg/l, Fish

Acute toxicity - aquatic

invertebrates

EC₅₀, 48 hours: 7,800 mg/l, Daphnia magna

Acute toxicity - aquatic

plants

, 96 hours: 1000 mg/l, Freshwater algae

METHANOL

Toxicity Based on available data the classification criteria are not met.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: >100 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic

invertebrates

EC₅o, 48 hours: >10000 mg/l, Daphnia magna

Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Ecological information on ingredients

trans-1-Chloro-3,3,3-trifluoropropene

Persistence and

degradability

The product is not readily biodegradable.

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE

Persistence and

degradability

The product is not readily biodegradable.

ETHANOL

Persistence and

degradability

The product is expected to be biodegradable.

METHANOL

Persistence and

degradability

The degradability of the product is not known.

Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient No information available.

Ecological information on ingredients

trans-1-Chloro-3,3,3-trifluoropropene

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Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Kow: 2.09

ETHANOL

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient No information available.

METHANOL

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient : -0.77

Mobility in soil

Mobility The product contains volatile substances which may spread in the atmosphere.

Ecological information on ingredients

trans-1-Chloro-3,3,3-trifluoropropene

Mobility No data available.

ETHANOL

Mobility The product is soluble in water.

METHANOL

Mobility No data available.

Other adverse effects

Other adverse effects The product contains a substance which has a photochemical ozone creation potential.

Ecological information on ingredients

trans-1-Chloro-3,3,3-trifluoropropene

Other adverse effects None known.

METHANOL

Other adverse effects None known.

SECTION 13: Disposal information

Waste treatment methods

General information Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site

in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the

local Waste Disposal Authority. Empty containers must not be punctured or incinerated because of the risk of an explosion. Aerosol containers can explode when heated, due to

excessive pressure build-up. Reuse or recycle products wherever possible.

SECTION 14: Transportation information

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UN number

UN No. (Road/Rail) 1950 UN No. (IMDG) 1950 UN No. (ICAO) 1950

UN proper shipping name

Proper shipping name

(Road/Rail)

Proper shipping name

AEROSOLS

AEROSOLS

(IMDG)

Proper shipping name (ICAO) AEROSOLS

Transport hazard class(es)

Road/Rail class 2.2

Road/Rail classification code 5A,5O

Road/Rail label 2.2

IMDG class 2.2

ICAO class/division 2.2

Transport labels



Packing group

Road/Rail packing group None IMDG packing group None ICAO packing group None

Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

Special precautions for user

EmS F-D, S-U

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information

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

Inventories

US - TSCA

Yes

SECTION 16: Other information

UFR UNIVERSAL FLUX REMOVER, AEROSOL

Revision comments NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date 1/6/2021

Revision 43

Supersedes date 21/5/2021

SDS number AEROSOL - UFR10A

SDS status Approved.

Hazard statements in full H225 Highly flammable liquid and vapour.

H280 Contains gas under pressure; may explode if heated.

H301 Toxic if swallowed.

H311 Toxic if in contact with skin. H319 Causes serious eye irritation.

H331 Toxic if inhaled. H332 Harmful if inhaled.

H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360 May damage fertility or the unborn child.

H370 Causes damage to organs.

H412 Harmful to aquatic life with long lasting effects.

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.