



SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER

Product Name : Extrinsic Tri-Fluid

Product Code : I-301

Intended Use(s) : Solvent / Silicone Permeation

CONTACT INFORMATION FOR SUPPLIER OF SAFETY DATA SHEET

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EMERGENCY TELEPHONE NUMBERS

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SECTION 2: HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Inhalation (Category 4), H332

Skin irritation (Category 2), H315

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word Warning

Hazard statement(s):

Hazard statement(s)

H315 Causes skin irritation.

H332 Harmful if inhaled.



Precautionary statement(s)

- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 Wash skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before reuse.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms: 'Chloroethene'
Methylchloroform

Formula: C2H3Cl3

Molecular weight: 133.40 g/mol

CAS-No.: 71-55-6

EC-No.: 200-756-3

Index-No.: 602-013-00-2

Hazardous components

Component	Classification	Concentration
1,1,1-Trichloroethane	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; Ozone 1; H315, H319, H332	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST-AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.



In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.



7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
1,1,1-Trichloroethane	71-55-6	TWA	350.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment Liver damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		
		STEL	450.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Liver damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		
		C	350.000000 ppm 1,900.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		See Appendix C 15 minute ceiling value		
		TWA	350.000000 ppm 1,900.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m3 is approximate.		
		PEL	350 ppm 1,900 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		STEL	450 ppm 2,450 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		C	800 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)



Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
1,1,1-Trichloroethane	71-55-6	Methyl chloroform	40ppm	In end-exhaled air	ACGIH - Biological Exposure Indices (BEI)
	Remarks	Prior to last shift of workweek			
		Trichloroacetic acid	10.0000 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of the workweek (After four or five consecutive working days with exposure)			
		Total trichloroethanol	30.0000 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift at end of workweek			
		Total trichloroethanol	1.0000 mg/l	In blood	ACGIH - Biological Exposure Indices (BEI)
		End of shift at end of workweek			

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)



Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 60 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) **Appearance** Form: clear, liquid
Colour: colourless
- b) **Odour** No data available
- c) **Odour Threshold** No data available
- d) **pH** No data available
- e) **Melting point/freezing point** -34.99 °C (-30.98 °F)
- f) **Initial boiling point and boiling range** 72.0 - 75.0 °C (161.6 - 167.0 °F)
- g) **Flash point** No data available
- h) **Evaporation rate** No data available
- i) **Flammability (solid, gas)** No data available
- j) **Upper/lower flammability or explosive limits** Upper explosion limit: 15 %(V)
Lower explosion limit: 7.5 %(V)
- k) **Vapour pressure** 133.3 hPa (100.0 mmHg) at 20.0 °C (68.0 °F)
- l) **Vapour density** No data available
- m) **Relative density** 1.34 g/cm³
- n) **Water solubility** 1.25 g/l at 23 °C (73 °F)
- o) **Partition coefficient: n- octanol/water** log Pow: 2.49
- p) **Auto-ignition temperature** 537.0 °C (998.6 °F)



- | | |
|-------------------------------------|-------------------|
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | No data available |

9.2 Other safety information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

Contains the following stabiliser(s):

Low alkyl epoxide (0.05 %)

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents, Potassium, Magnesium, Sodium/sodium oxides, Zinc, Strong bases

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 9,600 mg/kg

Remarks: Cardiac:Pulse rate. Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

LD50 Oral - Mouse - 6,000 mg/kg

Remarks: Cardiac:Pulse rate. Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

LC50 Inhalation - Mouse - 2 h - 3911 ppm

Remarks: Behavioral:Excitement.

Dermal: No data available

LD50 Intraperitoneal - Rat - 3,593 mg/kg

LD50 Intraperitoneal - Mouse - 2,568 mg/kg

LD50 Subcutaneous - Mouse - 16.0 mg/kg

Remarks: Drowsiness Behavioral:Ataxia.

LD50 Intraperitoneal - Dog - 3,100 mg/kg

Remarks: Liver:Liver function tests impaired.



Skin corrosion/irritation

Skin - Rabbit

Result: Skin irritation - 24 h

Serious eye damage/eye irritation Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (1,1,1-Trichloroethane)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: Not available

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Exposure to and/or consumption of alcohol may increase toxic effects., prolonged or repeated exposure can cause: narcosis, Liver injury may occur., Kidney injury may occur.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

LC50 - Pimephales promelas (fathead minnow) - 42.3 mg/l - 96 h

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Bioaccumulation

Lepomis macrochirus (Bluegill) - 28 d - 0.0734 mg/l
Bioconcentration factor (BCF): 9



12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

DOT (US)

UN number: 2831 Class: 6.1 Packing group: III
Proper shipping name: 1,1,1-Trichloroethane
Reportable Quantity (RQ): 1000 lbs
Poison Inhalation Hazard: No

IMDG

UN number: 2831 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: ETHYL ACETATE

IATA

UN number: 2831 Class: 6.1 Packing group: III
Proper shipping name: 1,1,1-Trichloroethane

SECTION 15: REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

1,1,1-Trichloroethane	CAS-No. 71-55-6	Revision Date 2007-07-01
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SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

1,1,1-Trichloroethane	CAS-No. 71-55-6	Revision Date 2007-07-01
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Pennsylvania Right To Know Components

1,1,1-Trichloroethane

CAS-No.
71-55-6

Revision Date
2007-07-01

New Jersey Right To Know Components

1,1,1-Trichloroethane

CAS-No.
71-55-6

Revision Date
2007-07-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

- Acute Tox. Acute toxicity
- Eye Irrit. Eye irritation
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- Ozone Hazardous to the ozone layer
- Skin Irrit. Skin irritation

HMIS Rating

Health hazard:	2
Chronic Health	
Hazard: Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

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