# TC-7500

**SAFETY DATA SHEET**
**TC-7500**

## Section 1: Identification

**Product Identifier**

**Tradename** TC-7500
**CAS Number** 163702-06-5

**Recommended use of the chemical and restrictions on use**

Industrial use only. Solvent for cleaning and coating, heat transfer fluid.

**Restrictions on Use**

TC-7500 are used in a wide range of applications, including but not limited to cleaning of medical devices and as a lubricant deposition solvent for medical devices. When the product is used for applications where the finished product is implanted into the human body, no residual product may remain on the parts.

Tyrell Chemical will not knowingly sample, supply or sell its products for incorporation into medical and pharmaceutical products and applications where the product will be temporarily or permanently implanted into humans or animals. The customer is responsible for evaluating that a product is suitable and appropriate for its particular use or intended application. It Is essential that the user evaluate and determine whether the product is suitable and appropriate for a particular use and intended application, and complies with all local applicable laws, regulations, standards, and guidance.

**Details of the suppler of the safety data sheet**

Supplier Tyrell Chemical

1 Alhambra Plaza PH Floor

Coral Gables FL 33134

Phone Number: +1-786-633-0019

**Emergency Telephone Number**

Emergency Telephone Number +1-786-633-0019

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## Section 2: Hazard(s) Identification

**Classification of the substance or mixture**

Classifications according to OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS07

| | | |
|---|---|---|
| Skin Irrit. 2A | H315 | *Causes Skin Irritation* |
| Eye Irrit. 2A | H319 | *Causes Serious Eye Irritation* |
| STOT SE 3 | H335 | *May Cause Respiratory Irritation* |
| Aquatic Chronic 4 | H413 | *May cause long lasting harmful effects to aquatic life* |

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**Information concerning particular hazards for human and environment**
The product has to be labelled due to the calculation procedure of OSHA Hazard Communication Standard (20 CFR 1910.1200).

**Classification system**

The classification is according to the latest edition of OSHA Hazard Communication Standard (29 CFR 1910.1200), and extended by company and literature data.

- Label Elements
- Labelling according to OSHA Hazard Communication Standard (29 CFR 1910.1200)
- Hazard Pictograms

**Label Elements**

**GHS-US Labeling**
Hazard Pictograms (GHS-US)

GHS07

**Signal word** *Warning*
**Hazard-determining components of labelling**
2-(Ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane
**Hazard Statements (GHS-US)**

| | |
|---|---|
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H413 | May cause long lasting harmful effects to aquatic life |

**Precautionary statements (GHS-US)**

| | |
|---|---|
| P202 | Do not operate until you have read and understood all safety precautions. |
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray. |
| P264 | Wash thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P273 | Avoid release to the environment. |

| | |
|---|---|
| P280 | Wear protective gloves / eye protection / face protection. |
| P302+P352 | If on skin: Wash with plenty of water. |
| P304+P340 | **IF INHALED**: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | **If in eyes**: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312 | Call a poison center or doctor if you feel unwell. |
| P321 | Specific treatment (see supplemental first aid instructions on this label). |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in an approved waste disposal plant |

**Hazards not otherwise classified (HNOC)** *No further relevant information available.*

**Unknown acute toxicity (GHS US)** *Not applicable*

## Section 3: Composition/information on ingredients

**Substance**

2-(Ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane

| CAS No. | Description | % |
|---|---|---|
| 163702-06-5 | 2-(Ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane | 100% |

## Section 4: First-aid measures

**Description of first aid measures**

**General description**

Immediately remove any clothing soiled by the product. In case of accident or if you feel unwell, seek medical advice immediately. Show this Safety Data Sheet to the medical personnel. Move the affected person from the contaminated area.

**After Inhalation**

No specific recommendations. If throat irritation or coughing persists, proceed as follows. Move affected person to fresh air and keep at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical advice/attention if discomfort continues. If not breathing give artificial respiration. In case of unconsciousness place patient on side for transportation. There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.

**After skin contact**
Immediately wash with water and soap and rinse thoroughly. Get medical advice/attention. There may be irritation and redness at the site of contact.

**After eye contact**
Immediately flush eyes thoroughly with water. Remove contact lenses, if present and easy to do so. Continue rinsing. Get medical advice/attention if discomfort continues. There may be irritation and redness. The eyes may water profously

**After ingestion**
No specific recommendation. If throat irritation of coughing persists proceed as follows. Rinse mouth out with water. Get medical advice / attention if any discomfort continues. There may be soreness and redness of the mouth and throat.

**Most important symptoms and effects, both acute and delayed**
The most important known symptoms and effects are described in the labelling (see section 2)

**Indication of any immediate medical attention and special treatment needed**
Treat symptomatically

## Section 5: Fire-fighting measures

**Extinguishing Media**
**Suitable extinguishing agents** The product is nonflammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use firefighting measures that suit the environment.

**Special hazards arising from the substance or mixture**
Fire hazard Thermal decomposition generates: Carbon oxides, hydrogen fluoride
Explosion hazard Risk of explosion if heated under confinement due to excessive pressure buildup. Use water spray or fog for cooling exposed containers

**Special protective equipment and precautions for firefighters**
**Firefighting instructions** Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignored use water spray to disperse vapors and protect personnel stopping the leak.

**Protective equipment** Wear gas tight chemically protective clothing in combination with self-contained breathing apparatus (SCBA) and appropriate clothing including helmets, protective boots, and gloves will provide a basic level of protection of chemical incidents. For further information refer to section 8: exposure controls/personal protection.

## Section 6: Accidental Release Measures

**Personal Precautions, protective equipment and emergency procedures**

**General Measures** Keep away from sparks, flames, and extreme heat. Evacuate unnecessary personnel. Ensure adequate air ventilation. Do not breathe gas, fumes, vapor, or spray. If outside do not approach from downwind. Mark the contaminated area with signs and prevent access to unauthorized personnel. Turn leaking containers leak-side up to prevent the escape of liquid.

**For non-emergency personnel**

Emergency procedures Prevent further leakage or spilling if safe to do so.

**For Emergency Responders**

**Protective Equipment** Do not attempt to act without suitable equipment. For further information refer to section 8 "Exposure controls/personal protection"

**Emergency Procedures**

**Environmental Precautions**

Do not allow to enter sewers / surface or ground water. Notify authorities if product enters sewers or public waters. Avoid release into the environment.

**Methods and material for containment and cleaning up**

**For containment** Stop leak if safe to do so. Dike up recovery or absorb with appropriate material.

**Methods for cleaning up** Collect the spillage in the container. Clean up from the edge of the spill inward. Cover with bentonite, vermiculite, or commercially available non-polar absorbent material. After fully absorbed mix until dry. Collect as much spillage as possible.

**Other information** Dispose contaminated material as waste according to section 13. Ensure adequate ventilation

## Section 7: Handling and Storage

**Precautions for safe handling**

Do not breathe thermal decomposition products. For industrial use only. Not for consumer sale or use. Store work clothes separately from other clothing, food and tobacco products. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (e.g. chlorine, chromic acid, etc). No smoking. Smoking while using this product can result in contamination of the tobacco and/or

smoke and lead to the formation of hazardous decomposition products. Keep away from sparks, flames, and extreme heat.

Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
For the general occupational hygienic measures refer to Section 8.

**Conditions for safe storage including any incompatibilities.**

Store away from acids. Store away from strong bases. Store away from oxidizing agents. Avoid exposure to the sun.

**Conditions for safe storage, including any incompatibilities**

**Requirements to be met by storerooms and receptacles** No special requirements.
**Information about storage in one common storage facility** Not required.
**Further information about storage conditions** Keep receptacle tightly sealed. Store in a cool dry place

## Section 8: Exposure controls/personal protection

**Exposure Controls**

Based on the composition shown in section 3, the following measures are suggested for occupational safety measure.

**Occupational exposure limits**

| Ingredient | CAS Number | Limit type |
|---|---|---|
| 2-(Ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane | 163702-06-05 | 200 ppm |

**Appropriate engineering controls**

Where the material might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust sufficient to maintain levels of thermal decomposition products below their exposure guidelines.

Ensure good ventilation of the workstation to ensure
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use general dilution and/or local exhaust ventilation to control airborne exposures

to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Provide ventilation adequate to maintain vapor concentration below lower explosive concentration.

Keep away from foodstuffs, beverages, tobacco, and feed stuffs.
Immediately remove all soiled and contaminated clothing.
Avoid contact with eyes and skin.
See Section 7 for information about the design of technical facilities.

**Personal protective equipment**

**Hand Protection**
Protective gloves 29 CFR 1910.138 Hand Protection.
Gloves made from the following material(s) are recommended: Neoprene

**Skin Protection**
If this product is used in a manner that presents a higher potential for exposure (e.g. spraying, high splash potential, etc) then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following clothing material(s) are recommended: Apron – Neoprene.

**Eye protection**
Chemical goggles or safety glasses. Face shield. 29 CFR 1910.133: Eye and face protection

**Hygiene Measures**
Wash hands thoroughly after handling. Wash at the end of each work shift and before eating, smoking, or using the toilet. Do not eat, drink, or smoke when using this product.

**Respiratory Protection**
For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use a positive pressure supplied air respirator.

Provide adequate ventilation. Large spills: If ventilation is inadequate, suitable respiratory protection must be worn. In case of inadequate ventilation wear respiratory protection. In case of intensive or longer exposure use respiratory device that is independent of circulating air.

**Skin and body protection**
Wear suitable protective clothing
**Other information**
Safety Shoes 29 CFR 1910.136: Foot Protection

## Section 9: Physical and Chemical Properties

**General information**
Appearance

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| | |
|---|---|
| Form | Liquid |
| Color | Colorless |
| Odor | Faint odor |
| Odor Threshold | No data available |
| pH | No data available |

| | |
|---|---|
| Change in condition | |
| Melting Point / Freezing Point | -138 °C (<-216.4 °F) |
| Initial boiling point and boiling range | 125°C – 128 °C) |
| Minimum operating temperature | -105 °C (-157 °F) |
| Maximum operating temperature | 65 °C (149 °F) |
| Flash point: | No Flash Point |
| Flammability Limits (LEL) | No data available |
| Flammability Limits (UEL) | No data available |

| | |
|---|---|
| Auto-ignition temperature | 375 °C |
| Decomposition temperature | No data available |
| Explosion limits | |
| Lower | No data available |
| Upper | No data available |
| Density | 1.81 g/cm3 |
| Vapor Pressure | 1.5 kPa |
| Evaporation Rate | 33 (Ref Std: BOUAC=1) |

| | |
|---|---|
| Solubility in / miscibility with water | <3ppm |
| Partition coefficient (n-octanol/water) | Not available |
| Viscosity | 1.1 cSt |
| Percent volatile | 100% |
| Other information | No further relevant information available. |

## Section 10: Stability and reactivity

**Reactivity** This material is considered to be non-reactive under normal use.

**Stability** Stable at normal ambient temperature and when used as recommended. Stable under the prescribed storage conditions.

**Possibility of hazardous reactions**

Hazardous polymerization will not occur.

**Conditions to avoid** Extremely high temperatures, keep away from heat, sparks, flame

**Materials to avoid**

Strong acids

Strong bases

Strong oxidizing agents

**Hazardous decomposition** Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following

substances: Carbon monoxide, carbon dioxide, hydrogen fluoride, perfluoroisobutylene, toxic vapor, gas, particulate

## Section 11: Toxicological Information

**Acute toxicity**

**LD/LC50 values that are relevant for classification**

Acute dermal toxicity, LD50 estimated to be 2000 to 5000 mg/kg
Acute inhalation toxicity, no lethal doce, LC50 > 20407.8 mg/m³
Acute imported toxicity, LD50 > 2000 mg/kg

| | |
|---|---|
| **Skin corrosion/irritation** | No significant irritation to rabbit skin |
| **Serious eye damage/irritation** | No significant irritation to rabbit eyes |
| **Respiratory or skin sensitization** | No reference data |
| **Germ Cell Mutageniticity** | Not mutagenic |
| **Target Organs** | No specific target organs known |
| **Aspiration Hazard** | No classified |

**Additional toxicological information**

**Carcinogenic categories**

**IARC (International Agency for Research on Cancer)**

Substance is not listed

**NTP (National Toxicology Program)**

Substance is not listed

**OSHA-CA (occupational safety and Health administration)**

Substance is not listed

**General Information** No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure

## Section 12: Ecological Information

**Toxicity**

| | |
|---|---|
| **Aquatic toxicity** | No further relevant information available. |
| **Persistence and degradability** | No further relevant information available. |
| **Bio accumulative potential** | No further relevant information available. |
| **Mobility in soil** | No further relevant information available. |
| **Other adverse effects** | No further relevant information available. |

**Ecotoxicity** Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

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## Section 13: Disposal Considerations

**Waste treatment methods**

**General Information**

The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Remove to an authorized incinerator equipped with an afterburner and glue gas scrubber. Combustion products will include HF. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**Uncleaned packages**

**Recommendation**

Disposal must be made according to official regulations. Dispose of surplus product and those that cannot be recycled via a licensed waste disposal contractor. Waste packaging should be collected for reuse or recycling. Incineration should only be considered when recycling is not feasible and must be equipped with a system for the neutralization or recovery of HF. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of the local water authority.

## Section 14: Transport Information

**General** The product is not covered by international regulations on the transport of dangerous goods (IDMG, IATA, DOT). DO NOT MIX AND TRANSPORT WITH STRONG ACIDS, STRONG BASES, AND FOOD. During transportation ensure that the container does not leak, collapse, fall, be damaged, be inverted or shaken violently. Avoid exposure to the sunlight, rain, and high temperatures during transportation. Stay away from fire and high temperature areas during stopovers. Transport vehicles should be equipped with corresponding types and quantities of fire-fighting equipment and leakage emergency treatment equipment.

**UN-Number**
**DOT, IDMG, IATA** Not applicable

**UN proper shipping name** Not applicable
**DOT, IDMG, IATA**

**Transport Hazard class(es)** Not applicable
**Class**

**Label** -

**Packaging Group**
**DOT, IDMG, IATA** Not applicable

**Environmental hazards**

**Marine Pollutant** No

**Special precautions for user** Not applicable

**Transportation in bulk according to Annex II of MARPOL73/78 and the IBC code:** Not applicable
**UN "Model Regulation"** Not applicable

## Section 15: Regulatory information

**US Federal Regulations**

**TSCA (Toxic Substances Control Act)**
Listed on the United States TSCA inventory

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TCSA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR 372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372

**International Regulations**

CANADA

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National Regulations

Listed on AICS (Australian Inventory of Chemical Substances)
Listed on the IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on the NZIoC (New Zealand Inventory of Chemicals)
Listed on the PICCS (Philippines Inventory of Chemicals and Chemical Substances)

**US State Regulations**

**California Proposition 65 Carcinogens and Reproductive Toxins**

| | |
|---|---|
| **Chemicals known to cause cancer** | Substance is not listed. |
| **Chemicals known to cause reproductive toxicity for females** | Substance is not listed |
| **Chemicals known to cause reproductive toxicity for males** | Substance is not listed |
| **Chemicals known to cause developmental toxicity** | Substance is not listed |

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| | |
|---|---|
| **Massachusetts Right-To-Know List** | Substance is not listed |
| **Minnesota Right-To-Know List** | Substance is not listed |
| **New Jersey Right-To-Know List:** | Substance is not listed |
| **New Jersey Special Hazardous Substance List** | Substance is not listed |
| **Pennsylvania Right-To-Know List** | Substance is not listed |
| **Pennsylvania Special Hazardous Substance List** | Substance is not listed |
| **Rhode Island Right to Know list** | Substance is not listed |

**Cancerogenity Categories**

| | |
|---|---|
| **EPA (Environmental Protection Agency)** | Substance is not listed |
| **TLV (Threshold Limit Value established by ACGIH)** | Substance is not listed |
| **NIOSH-ca (National Institute for Occupational Safety and Health)** | Substance is not listed |

## Section 16: Other Information:

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The contents and format of this SDS are in accordance with 29 CFR 1910.1200

| | |
|---|---|
| **Training Advice** | Only trained personnel should use this material |
| **Issued by** | Tyrell Chemical LLC |

| | |
|---|---|
| **Date of Preparation / last revision** | 2025-12-05 |
| **Supersedes Date** | none |
| **Revision** | 1 |
| **SDS status** | Approved |

| | |
|---|---|
| NFPA Health Hazard | 3 – Short exposure could cause temporary or residual injury even though prompt medical attention was given |
| NFPA Fire Hazard | 1 – Materials that are normally stable but become explosive at elevated temperature and pressure. |
| NFPA Reactivity | 0 – Normally stable even under fire exposure conditions and are not reactive with water |

The NFPA health code of 3 is due to emergency situations where the material may decompose and release Hydrogen Fluoride and Perfluoroisobutylene (PFIB). During normal use please reference section 2 and section 11 of the SDS for additional health hazard information

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| HMIS III Rating | |
|---|---|
| Health | 1 slight hazard – This material causes irritation nor minor, reversable injury on contact with eyes, skin, mucous membranes or upper respiratory tract. |
| Flammability | 1 slight hazard – material must be preheated before ignition will occur. |
| Physical | 0 Minimal Hazard – Materials that are normally stable, even under fire conditions, and will NOT reach with water, polymerize, decompose, condense, or self-react. Non-Explosives |

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**Abbreviations and acronyms:**

| | |
|---|---|
| ACGIH: | American Conference of Governmental Industrial Hygienists |
| AICS: | Australian Inventory of Chemical Substances |
| CAS: | Chemical Abstracts Services (Division of the American Chemical Society) |
| CERCLA: | Comprehensive Environmental Response, Compensation, and Liability Act of 1980 |
| DOT: | US Department of Transportation |
| DSL | Domestic Substances List |
| ECL: | Existing Chemicals List |
| EPA: | Environmental Protection Agency |
| Eye Irrit. 2a: | Serious Eye damage/eye irritation – Category 2A |
| IECSC: | Inventory of Existing Chemical Substances Produced or Imported in China |
| IMDG: | International Maritime Code for Dangerous Goods |
| IATA: | International Air Transport Association |
| LC50: | Lethal Concentration, 50 percent |
| LD50: | Lethal Dose, 50 percent |
| NIOSH: | National Institute for Occupational Safety |
| NZIoC: | New Zealand Inventory of Chemicals |
| OSHA: | Occupational Safety and Health |
| PICCS: | Philippines Inventory of Chemicals and Chemical Substances |
| SARA: | Superfund Amendments and Reauthorization Act |
| Skin Irrit. 2: | Skin corrosion/irritation – Category 2 |
| STOT SE 3: | Specific target organ toxicity (single exposure) – Category 3 |
| TLV: | Threshold Limit Value |

**DISCLAIMER OF LIABILITY**

The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and for other reasons we do not assume and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use, or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product then this SDS information may not be applicable. The above information is believed to be correct and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is offered solely for your consideration, investigation, and verification. It does not represent any guarantee of the properties of the product nor that the hazard precautions or procedures described are the only ones that exist. Tyrell Chemical LLC shall not be held liable for any damage resulting from handling or from contact with the above product

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