Trifluoroacetic acid

Section 1: Chemical Product and Company Identification

Product Name: Trifluoroacetic acid
Catalog Codes:2 28
Synonym: Trifluoroethanoic acid;
Perfluoroacetic acid
Chemical Name: Trifluoroacetic acid
Chemical Formula: CF3COOH

Contact Information:
Expresolv Ltd.
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CIN No.: U51909GJ2016PLC092972

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS No.	% by weight
Trifluoroacetic acid	76-05-1	100

Toxicological Data on Ingredients: Trifluoroacetic acid: ORAL (LD50): Acute: 5650 mg/kg [Rat]. 2402 mg/kg [Mouse]. DERMAL (LD50): Acute: 20001 mg/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects:

Mechanical eye irritant. May cause tearing and redness. Mechanical skin irritant. Prolonged contact may cause skin abrasion, redness, itching. May cause nausea and vomiting. No long-term health effects are anticipated. Dust may be slightly irritating to respiratory tract. May cause coughing or shortness of breath

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available.

Section 4: First Aid Measures

Eye Contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required

Skin Contact:

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.

Serious Skin Contact: Not available.

Inhalation:

If not breathing, give artificial respiration. Call a physician immediately. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Serious Inhalation: Not available.

Ingestion:

Ingestion is an unlikely route of exposure. Leave decision to induce vomiting to qualified medical personnel, since particles may be aspirated into the lungs. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Use standard firefighting procedures and consider the hazards of other involved materials. Use water spray to cool unopened containers.

Special Remarks on Fire Hazards:

Toxic and irritating fumes of ammonia and oxides of nitrogen may form in fires. Decomposes into ammonia and phosphoric acid when heated.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions: Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label.

Avoid contact with skin and eyes Storage: Corrosive materials should be stored in a separate safety storage cabinet or room.

Storage: Store as segregated well ventilated area keep container tightly closed avoid all possible sources ignition.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Provide sufficient mechanical ventilation to reduce airborne concentrations and minimize exposure. Maintain employee exposure below applicable permissible exposure limits.

Personal Protection: Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid(Clear, Colorless)

Odour: Pungent

Taste: Not available.

Molecular Weight: 114.02 g/mole

Colour: Colourless.

pH (1% soln/water): Approximately 1.2

Boiling Point: 72.4 °C (162.3 °F; 345.5 K)

Melting Point: −15.4 °C (4.3 °F; 257.8 K)

Critical Temperature: Not available.

Specific Gravity: 1.490

Vapor Pressure: 107 mbar @ 25 °C

Vapor Density: 3.9

Volatility: Not available.

Odour Threshold: Not available.

Water/Oil Dist. Coeff. : Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: miscible with water

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 17000 mg/kg [Rat].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes mild skin irritation. May cause dermatitis. Eyes: Causes mild eye irritation. Ingestion: May cause irritation of the digestive tract and may cause purging. It is slowly absorbed. Expected to be a low ingestion hazard for usual industrial handling. Ingestion of large doses may affect behaviour/central nervous system (tetany). However, if a significant amount of phosphate is absorbed, hypophosphatemia will occur. Severe hypophosphatemia may result in hypocalcaemia and tetany. Cardiovascular, respiratory, neurologic, and musculoskeletal effects may occur secondary to hypernatremia, hypophosphatemia, and hypocalcaemia Inhalation: May cause respiratory tract and mucous membrane irritation. Low hazard for usual industrial handling. Chronic Potential Health Effects: Skin: High and repeated exposure may cause dermatitis.

Section 12: Ecological Information

Ecotoxicity: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment

BOD5 and COD: Not available.

Products of Biodegradation: Not available.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Section 14: Transport Information

DOT Classification : Class 8

Identification: Trifluoroacetic acid.

UNNA: UN2699

PG: I

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:

All components are on the U.S. EPA TSCA Inventory List. This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. CERCLA/SARA Hazardous Substances - Not applicable.

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC): This product is not classified according to the EU regulations. S24/25- Avoid contact with skin and eyes.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 1

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 0

Reactivity: 1

Specific hazard:

Protective Equipment: Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Safety glasses.

Section 16: Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall *Expresolv Ltd* be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages.

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