



Material Safety Data Sheet

TI-N Perfluoroalkyl Iodides (Narrow Distribution)

Revised 03- November-2009

1. PRODUCT AND COMPANY IDENTIFICATION

Material Identification:

Product name: TI-N
Chemical name: Perfluoroalkyl iodides (narrow distribution)
1-Iodoperfluoroalkyls, mixture of chain lengths
Chemical formula: $F(CF_2CF_2)_nI$, $n = 2, 3, 4, \dots$; mostly $n = 4$
 $C_nF_{m+1}I$; $n = 4, 6, 8, 10, \dots$; $m = 2n+1$

Company Identification:

Distributor Top Fluorochem Co., Ltd.
Building C2, 3rd Floor
479 Chun Dong Road
XinZhuang Industrial Park
Minhang District
Shanghai, P. R. China 201108

Manufacturer Fuxin Hengtong Fluorine Chemicals Co., Ltd.
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2. COMPOSITION AND INFORMATION ON COMPONENTS

Material	Molecular Weight	EINECS #	CAS #
Perfluoroalkyl iodides	~610 (average)	207-025-8	25398-32-7

3. HAZARDS IDENTIFICATION

Emergency Overview: Remove victim from exposure and lie down. Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the side recovery position. When symptoms persist, or in all cases of doubt, seek medical advice.

Potential Effects of Exposure:

Dermal contact: Skin contact may cause skin irritation with discomfort or rash.

Inhalation: Inhalation may cause irritation of the nose and throat

with sneezing, sore throat, or runny nose.

Inhalation of large amounts of aerosolized respirable particles may cause pulmonary edema (body fluid in the lungs). Symptoms may be modest initially, followed in hours by severe shortness of breath requiring prompt medical attention.

Eye contact:

May cause eye irritation with discomfort, tearing or blurring of vision.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

4. FIRST AID MEASURES

Potential Effects Of Exposure:

Potential Exposure:

Inhalation:

Remove to fresh air. If breathing is difficult, give oxygen and seek medical attention.

Eye contact:

Flush with copious amounts of water for at least 15 minutes. If irritation persists, seek medical attention.

Skin contact:

Remove contaminated clothing. Wash affected area with soap and water. Rinse thoroughly. If irritation persists or other symptoms are observed, seek medical advice.

Ingestion:

Rinse out mouth and drink lots of water. Seek medical attention.

Notes to Physicians

Activated charcoal mixture may be beneficial. Suspend 50 g activated charcoal in 400 mL water and mix well. Administer 5 mL/kg, or 350 mL for an average adult. Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should only be used with special caution in situations of emergency life support.

5. FIRE FIGHTING MEASURES

Flash Point:

> 65 °C (closed cup)

Extinguishing Medium:

Use fire-fighting measures which suit the environment and take into account other materials which may be involved. In general, water-based extinguishers should not be used for fires involving organic materials. Use carbon dioxide or dry powder.

Protective Equipment:

Wear self-contained breathing apparatus and protective clothing.

Hazardous Products of Combustion May Include:

Carbon monoxide, carbon dioxide, hydrogen fluoride (hydrofluoric acid), hydrogen iodide (hydroiodic acid). These products may cause severe eye, nose, and throat irritation or toxic effects.

6. ACCIDENTAL RELEASE MEASURES

Personal Protection:	Wear protective equipment including rubber gloves, and eye protection. Evacuate personnel to safe areas.
Environmental Protection:	Take precautions to ensure product does not contaminate the ground or enter the drainage system.
Spill Clean-Up	Mix with vermiculite or proprietary absorbent material and transfer to sealed containers for disposal.

7. HANDLING AND STORAGE

Safe Handling:	Avoid formation of respirable particles. Do not breathe vapors or spray mist. Wash hands immediately after handling the product. Advice on protection against fire and explosion: do not spray on a naked flame or any other incandescent material.
Storage:	Store in tightly sealed containers in a cool, well-ventilated place. Protect from moisture, light, and oxygen.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls	Keep container tightly closed. Use only with adequate ventilation. Do not aerosolize or spray. Prevent leaks in high-pressure systems that could create fine mists.
Personal Protective Equipment	
Eye/face protection:	Wear coverall chemical splash goggles. Additionally, wear a face shield where the possibility exists for face contact due to splashing or spraying of material.
Respirators:	Where there is potential for airborne exposures, wear NIOSH approved air supplied respiratory protection.
Protective clothing:	Where there is potential for skin contact have available and wear as appropriate impervious gloves, apron, pants, jacket, hood and boots.
Exposure Guidelines	
Exposure limits:	<p>Perfluoroalkyl iodides PEL (OSHA): None Established TLV (ACGIH): None Established AEL* (DuPont): 10 mg/m³, 8 hour TWA</p>
Other applicable exposure limits:	<p>Iodine PEL (OSHA): 0.1 ppm, 1 mg/m³, Ceiling TLV (ACGIH): Ceiling 0.1 ppm, 1.0 mg/m³ 545.96 ppm, A4, 8 Hr. TWA STEL 0.1 A4</p> <p>Iodides</p>

0.1 mg/m³, 8 Hr. TWA, A4
 AEL* (DuPont): None established

*AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point	115-240 °C @ 760 mm Hg
Molecular Weight	~ 610 (average)
pH	Acidic
Form	Waxy liquid or semi- solid
Odor	Iodine (impurity)
Color	Purple to pink
Flash Point	> 65 °C (closed cup)
Specific Gravity	1.8 @ 70 °C
Thickening Point	35 – 50 °C
Solubility in Water	Negligible

10. STABILITY AND REACTIVITY

Chemical Stability	Stable at normal temperatures and storage conditions.
Incompatibility with Other Materials	None reasonably foreseeable.
Decomposition	Decomposes with heat. Decomposition temperature: > 250 °C (> 482 °F) Hazardous decomposition products including carbon dioxide, carbon monoxide, hydrogen fluoride, toxic gases or particles may be formed during combustion. These products may cause severe eye, nose, throat, and lung irritation or toxic effects. Decomposes when exposed to UV light.
Polymerization	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

RTECS Number:	Not listed
Acute Toxicity	
LD50:	No data reported
Skin irritation:	No data available
Eye irritation:	No data available
Human Experience:	Excessive exposures may affect human health as follows:
Inhalation:	Lungs: cough, shortness of breath. Symptoms may be delayed.
Skin contact:	Irritation, discomfort, rash.
Eye contact:	Excessive lachrymation, blurred vision, discomfort, irritation.
Ingestion:	Nausea, weakness, and disturbance.

12. ECOLOGICAL EFFECT

General Prevent chemicals from entering the ground, water courses, or drainage system.

13. DISPOSAL CONSIDERATIONS

Disposal: Disposal should be via an approved contractor and should take full account of local regulations.

14. TRANSPORTATION INFORMATION

Mode	DOT/IMDG/IATA
UN Number	None. Non-hazardous for transport.
Class (Subsidiary)	None. Non-hazardous for transport.
Proper Shipping Name	None. Non-hazardous for transport.
Hazard Label (Subsidiary)	None. Non-hazardous for transport.
Packing Group	None. Non-hazardous for transport.
Shipping Hazard Label	None. Non-hazardous for transport.

15. REGULATORY INFORMATION

EINECS Number: 207-025-8
CAS Number: 25398-32-7
RTECS Number: Not listed.
TSCA: Listed substance

Hazard Symbols:

Xi Irritant:



Risk phrases: 36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases: 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 36/37 Wear suitable protective clothing and gloves.
 60 This material and its container must be disposed of as hazardous waste.

16. OTHER INFORMATION

HMIS (Hazardous Materials Identification System) Ratings

(scale 0-4)

Health (acute effects) = 1
 Flammability = 1
 Reactivity = 1

Legal Disclaimer: For R&D use only. Not for drug, household, or other

uses. The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. Unless noted to the contrary, the technical information applies only to pure product.

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End of MSDS