Fluoryx Labs

Safety Data Sheet

FC01-N

Perfluoroalkyl Iodides (Mixture)

Revised 21-November-2016

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product name	Perfluoroalkyl iodides, mixture of chain lengths, perfluorooctyl iodide > 60%
Catalog number	FC01-N
Brand	Fluoryx Labs
CAS number	25398-32-7

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified uses	Laboratory chemicals. Synthesis of substances.

Details of the Supplier of the Safety Data Sheet

Company	Fluoryx Labs 3650 Research Way, #22 Carson City, NV 89706 USA +1 (510) 329-9149 (Telephone) +1 (510) 686-8799 (Fax) www.fluoryx.com
Emergency Call (ChemTel)	+01-813-248-0585 (International) +1-800-255-3924 (USA)

2. HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

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

Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity – single exposure (Category 3), respiratory system, H335

GHS Label Elements, Including Precautionary Statements

Pictogram: GHS07: Exclamation mark

Signal word: Warning

Hazard statement(s)

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.

P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/eye protection/face protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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/ physician if you feel unwell.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.

Hazards Not Otherwise Classified (HNOC) or Not Covered by GHS - none

3. COMPOSITION AND INFORMATION ON COMPONENTS

Synonyms Perfluoroalkyl iodides;
1-Iodoperfluoroalkanes;
Ethene, 1,1,2,2-tetrafluoro-, telomer with 1,1,1,2,2-pentafluoro-2-iodoethane;
Ethene, tetrafluoro-, telomer with pentafluoroiodoethane

Formula $F(CF_2CF_2)_xI$, x = 2, 3, 4, …; mostly x = 4
C_nF_mI; n = 4,6,8,10…; m = 2n+1

Molecular Weight ~610 (average) g/mol

CAS Number 25398-32-7

EC Number None

Hazardous Components

Component	Classification	Concentration
Perfluoroalkyl iodides	Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H315, H319, H335	≤100%

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

4. FIRST AID MEASURES

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 Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

	Continue rinsing for 15 minutes. Consult a doctor.
If swallowed	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Indications of Any Immediate Medical Attention

No data available.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Special Hazards Arising from the Substance	Hazardous decomposition products formed under fire conditions - carbon oxides, hydrogen fluoride, hydrogen iodide.
Advice for Firefighters	Wear self contained breathing apparatus for fire fighting.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental Precautions	Do not let product enter drains.
Methods for Cleaning Up	Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling	Avoid contact with skin and eyes. Avoid formation of mist or respirable particles. Provide appropriate exhaust ventilation at places where mist or vapors are formed. Normal measures for preventive fire protection. Keep away from open flames and heated surfaces above 200 °C (392 °F).
Conditions for Safe Storage	Store in cool place protected from light. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Specific End Use(s)	Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with Workplace Control Parameters

PEL (OSHA): None established
TLV (ACGIH): None established

Other Exposure Limits

Perfluorooctyl iodide AEL* (DuPont): 10 mg/m^3, 8 hour TWA

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

Personal Protective Equipment

Eye/face protection	Safety glasses with side-shields conforming to EN166. 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: 30 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	Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection	For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator.For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Form	Waxy slush at room temperature
Color	Colorless, turns pink on exposure to light
Safety Data	

pH	Slightly acidic
Melting point/freezing point	35-50 °C
Boiling point	115-240 °C at 760 mm Hg
Flash point	> 100 °C (closed cup)
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Thermal decomposition temperature	> 200 °C
Vapor pressure	No data available
Density	1.8 g/cm^3 @ 20 °C
Water solubility	Negligible
Partition coefficient (*n*-octanol/water)	No data available
Relative vapor density (air = 1)	> 1
Odor	Slight, acidic
Odor threshold	No data available
Evaporation rate	No data available
Viscosity	No data available
Oxidizing properties	No data available

10. STABILITY AND REACTIVITY

Reactivity	No data available
Chemical Stability	Stable in sealed containers under dry, inert atmosphere.
Possibility of Hazardous Reactions:	No data available. Store under inert (dry) atmosphere.
Conditions to Avoid	Exposure to light and oxygen. Keep away from open flames and heated surfaces above 200 °C (392 °F).
Incompatible Materials	Avoid strong oxidizing agents, aluminum.
Hazardous Decomposition Products	Decomposition temperature > 200 °C. Hazardous decomposition products formed under fire conditions - carbon oxides, hydrogen fluoride, hydrogen iodide. Decomposes when exposed to UV light.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Oral LD50	No data available
Inhalation LC50	No data available
Dermal LD50	No data available
Other information on acute toxicity	LD50 intravenous – mouse – 7,500 mg/kg for perfluorooctyl iodide

Skin Corrosion/Irritation	No data available
Serious Eye Damage/Eye Irritation	No data available
Respiratory or Skin Sensitization	No data available
Germ Cell Mutagenicity	No data available
Carcinogenicity	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as

	probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. 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 carcinogen or potential carcinogen by OSHA.
Reproductive Toxicity	No data available
Specific Target Organ Toxicity (Globally Harmonized System)	
Single exposure	Inhalation – may cause respiratory irritation
Repeated exposure	No data available
Aspiration Hazard	No data available
Signs and Symptoms of Exposure (Human Experience)	
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.
Synergistic Effects	No data available
Additional Information	RETECS number not available.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Toxicity	No data available
Persistence and Degradability	Not readily biodegradable
Bioaccumulative Potential	No data available
Mobility in Soil	No data available
PBT and vPvB Assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
Other Adverse Effects	No data available

13. DISPOSAL CONSIDERATIONS

Product	Offer non-recyclable solutions to a licensed disposal company or contact Fluoryx to return unused product.
Contaminated Packaging	Dispose of as unused product.

14. TRANSPORTATION INFORMATION

DOT (US)	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

15. REGULATORY INFORMATION

TSCA Status	On the inventory or in compliance with the inventory.
DSL Status	Not on the Canadian DSL list.
SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	Acute health hazard
Massachusetts Right to Know Components	No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right to Know Components	Perfluoroalkyl iodides CAS-No. 25398-32-7 Revision Date
New Jersey Right to Know Components	Perfluoroalkyl iodides CAS-No. 25398-32-7 Revision Date
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.

16. OTHER INFORMATION

Full Text of H-Statements Referred to Under Sections 2 and 3.

Eye Irrit.	Eye irritation.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
Skin Irrit.	Skin irritation.
STOT SE	Specific target organ toxicity - single exposure.

HMIS Rating

Health hazard	1
Flammability	0
Physical hazards	0

NFPA Rating

Health hazard	1
Fire	0
Reactivity hazard	0

Further Information

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 SDS