

SAFETY DATA SHEET

Preparation Date: 07/16/2015

Revision Date: 10/5/2015

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: P1201
Product Name: PENTAFLUOROPROPIONIC ACID, 98+%

Other means of identification

Synonyms: No information available
CAS #: 422-64-0
RTECS # UF6475000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Label elements

Danger**Hazard statements**

Harmful if inhaled

Causes severe skin burns and eye damage

**Hazards not otherwise classified (HNOC)**

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response*Immediately call a POISON CENTER or doctor/physician**Specific treatment (see .? on this label)*

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

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. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Pentafluoropropionic Acid 422-64-0	422-64-0	100	*

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4. FIRST AID MEASURES

First aid measures

General Advice:

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Skin Contact:

Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Eye Contact:

Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion:

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

Symptoms

Severe skin irritation. Causes severe skin burns. Severe eye irritation. Causes eye burns. Causes eye damage. Harmful by inhalation. May cause irritation of respiratory tract. Somnolence. Dyspnea (Shortness of breath and difficulty breathing). Causes digestive (gastrointestinal) tract irritation. Can burn mouth, throat, and stomach.

Indication of any immediate medical attention and special treatment needed

Notes to Physician:

Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

Dry chemical. Carbon dioxide (CO₂). Water spray. Foam.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products:

Carbon monoxide; carbon dioxide, hydrogen fluoride gas

Specific hazards:

May be combustible at high temperatures
May be ignited by heat, sparks or flames
Highly toxic hydrogen fluoride gas is produced during combustion

Special Protective Actions for Firefighters

Specific Methods:

No information available.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials. Remove all sources of ignition.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not ingest. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Store away from incompatible materials. Store under inert gas. Hygroscopic. Protect from moisture.

Incompatible Materials:

Oxidizing agents. Bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Pentafluoropropionic Acid 422-64-0	None	None	None	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec

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Pentafluoropropionic Acid 422-64-0	None	None	None	None
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Australia and Mexico

Components	Australia	Mexico
Pentafluoropropionic Acid 422-64-0	None	None

Appropriate engineering controls

Engineering measures to reduce exposure: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

- Eye protection:** Goggles Face-shield
- Skin and body protection:** Chemical resistant protective suit. Gloves. Boots.
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical state: Liquid.	Appearance: No information available	Color: Colorless to pale yellow.
Odor: Rancid.	Taste No information available	Molecular/Formula weight: 164.03
Formula: C3HF5O2	Flammability: No information available	Flash point (°C): No data available
Flashpoint (°C/°F): No information available.	Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available
Lower Explosion Limit (%): No information available	Upper Explosion Limit (%): No information available	pH: No information available
Melting point/range(°C/°F): No information available	Boiling point/range(°C/°F): 95-98°C/ 203-208°F	Decomposition temperature(°C/°F): No information available
Bulk density: No information available	Density (g/cm3): No information available	Specific gravity: 1.5760-1.5800
Vapor pressure @ 20°C (kPa): No information available	Evaporation rate: No information available	Vapor density: 5.66
VOC content (g/L): No information available	Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available
Viscosity: No information available	Miscibility: No information available	Solubility: Soluble in Water Soluble in Ether Soluble in Benzene Soluble in Acetone Soluble in Chloroform Soluble in Ethanol

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents
Reacts with strong bases

Chemical stability

Stability:

Stable under recommended storage conditions.

Possibility of Hazardous Reactions:

Hazardous polymerization does not occur

Conditions to avoid:

Heat. Ignition sources. Incompatible materials.

Incompatible Materials:

Oxidizing agents. Bases.

Hazardous decomposition products:

Carbon oxides. Hydrogen fluoride.

Other Information

Corrosivity:

Corrodes on contact with metals

Special Remarks on Corrosivity:

No information available

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11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Skin. Eyes. Inhalation. Ingestion.

Acute Toxicity

Component Information

Pentafluoropropionic Acid - 422-64-0

LD50/oral/rat = No information available

LD50/oral/mouse = No information available

LD50/dermal/rat = No information available

LD50/dermal/rabbit = No information available

LC50/inhalation/rat = 15500 mg/m³ Inhalation LC50 Rat 2 h

LC50/inhalation/mouse = 21 gm/m³ 2h

Other LD50 or LC50 information = 65 uL/kg Intrap. LC50 Mouse

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =

Value - Acute Tox Oral = No information available

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

VALUE-Vapor = 15500mg/m³ (2-hr)

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = 21000 mg/kg 2h

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes severe irritation and burns.

Eye Contact: Causes severe irritation and burns. Causes conjunctival irritation.

Inhalation Harmful by inhalation. May affect behavior/central nervous system (somnolence).
Can cause dyspnea (shortness of breath and difficulty breathing).

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Ingestion May affect behavior/central nervous system (somnolence). May affect respiration (dyspnea - difficulty breathing and shortness of breath). Irritating to mouth, throat and stomach. May cause digestive (gastrointestinal) tract burns. May cause perforation of the digestive tract.

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated ingestion may cause cyanosis. Prolonged or repeated inhalation may affect the kidneys (proteinuria), blood (white blood cell count), and cause weight loss.

Sensitization: No information available

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Pentafluoropropionic Acid	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure No information available
Target Organs: Lungs.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

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Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Pentafluoropropionic Acid	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (pentafluoropropionic acid)
Hazard Class: 8
Subsidiary Risk:
Packing Group: II
ERG No: 153
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Symbol(s): G

TDG (Canada)

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

ADR

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.
Hazard Class: 8
Packing Group: II
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
EMS: F-A

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14. TRANSPORT INFORMATION

MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

IATA

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 8L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Pentafluoropropionic Acid</i>	Present	Not present	Present	Present (2)-1182	Not present	Present	Present 207-021-6

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Pentafluoropropionic Acid</i>	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

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Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Pentafluoropropionic Acid	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Pentafluoropropionic Acid	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

E Corrosive material
D1B Toxic materials

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

Components	Canada (DSL)	Canada (NDSL)
Pentafluoropropionic Acid	Not Listed	Present

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Pentafluoropropionic Acid	Not listed	Not listed

EU Classification

R-phrase(s)

R34 - Causes burns.
R20 - Harmful by inhalation.

S -phrase(s)

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Components	Classification	Concentration Limits:	Safety Phrases
Pentafluoropropionic Acid		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

C - Corrosive.
Xn - Harmful.

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16. OTHER INFORMATION

Preparation Date: 07/16/2015
Revision Date: 10/5/2015
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet