

Material Safety Data Sheet

4-Fluorophenyl isocyanate, 99%

ACC# 21568

Section 1 - Chemical Product and Company Identification

MSDS Name: 4-Fluorophenyl isocyanate, 99%

Catalog Numbers: AC119600000, AC119600050, AC119600250

Synonyms: p-Fluorophenyl isocyanate.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1195-45-5	4-Fluorophenyl isocyanate	99	214-799-0

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear light yellow to yellow orange liquid. Flash Point: 60 deg C.

Danger! May be fatal if inhaled. Causes eye, skin, and respiratory tract irritation. **Flammable liquid and vapor.** May cause allergic respiratory and skin reaction. May be harmful if swallowed or absorbed through the skin. May cause lung damage. Moisture sensitive.

Target Organs: Lungs, respiratory system, eyes, skin.

Potential Health Effects

Eye: Vapors cause eye irritation. Lachrymator (substance which increases the flow of tears). May cause severe eye irritation and possible injury.

Skin: Causes skin irritation. Organic isocyanates can cause local irritation and allergic reactions. Isocyanates, in general, can cause skin discoloration (staining) and hardening of the skin after repeated exposures.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.

Inhalation: May be fatal if inhaled. Causes respiratory tract irritation. May cause allergic respiratory reaction. At high concentrations, isocyanates affect mucous membranes of the respiratory tract and may lead to fatal pulmonary edema.

Chronic: Chronic overexposure to isocyanates has been reported to cause lung damage, including decreased lung function, which may be permanent.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical aid if symptoms occur. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Flammable liquid and vapor. Fire or excessive heat may result in violent rupture of the container due to bulk polymerization. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media: Use carbon dioxide or dry chemical.

Flash Point: 60 deg C (140.00 deg F)

Autoignition Temperature: Not available.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 2; Instability: 2

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide

ventilation. Do not get water inside containers. Evacuate unnecessary personnel. Approach spill from upwind.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep away from heat, sparks and flame. Do not breathe vapor or mist. Inform laundry personnel of contaminant's hazards. Isocyanates react with water to form CO2 gas. This gas can cause sealed containers to expand and possibly rupture. Use only with adequate ventilation or respiratory protection. Never work alone with this chemical.

Storage: Refrigerator/flammables. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
4-Fluorophenyl isocyanate	none listed	none listed	none listed

OSHA Vacated PELs: 4-Fluorophenyl isocyanate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear light yellow to yellow orange

Odor: irritating odor

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate:Not available.

Viscosity: Not available.

Boiling Point: 68 deg C

Freezing/Melting Point:Not available.

Decomposition Temperature:Not available.

Solubility: Hydrolysis.

Specific Gravity/Density:1.206 g/cm3

Molecular Formula:C7H4FNO

Molecular Weight:137.11

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. May polymerize.

Conditions to Avoid: Ignition sources, moisture, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, acids, strong bases, amines, alcohols, water.

Hazardous Decomposition Products: Hydrogen cyanide, nitrogen oxides, carbon monoxide, carbon dioxide, hydrogen fluoride gas.

Hazardous Polymerization: May occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 1195-45-5 unlisted.

LD50/LC50:

Not available.

Data for similar chemical, 4-chlorophenyl isocyanate, CAS 104-12-1: ation, rat: LC50 = 113 mg/m3/4H.

Carcinogenicity:

CAS# 1195-45-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Mutagenicity: No data available.

Neurotoxicity: No data available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	DOT regulated - small quantity provisions apply (see 49CFR173.4)	ISOCYANATES, TOXIC, FLAMMABLE, N.O.S.*
Hazard Class:		6.1
UN Number:		UN3080
Packing Group:		II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 1195-45-5 is not listed on the TSCA inventory. It is for research and development use only.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 1195-45-5: immediate, delayed, fire, reactive.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 1195-45-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T+

Risk Phrases:

R 26 Very toxic by inhalation.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 42 May cause sensitization by inhalation.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 38 In case of insufficient ventilation, wear suitable respiratory equipment.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 28A After contact with skin, wash immediately with plenty of water

WGK (Water Danger/Protection)

CAS# 1195-45-5: No information available.

Canada - DSL/NDL

CAS# 1195-45-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, B3, D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 3/16/1998

Revision #3 Date: 12/12/2003

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 Fisher 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, howsoever arising, even if Fisher has been advised of the possibility of such damages.