



Material Safety Data Sheet

Dilithium tetrachlorocuprate (0.1M solution in THF)

MSDS# 02318

Section 1 - Chemical Product and Company Identification

MSDS Name: Dilithium tetrachlorocuprate (0.1M solution in THF)
Catalog Numbers: AC407830000, AC407830250, AC407831000, AC407835000
Synonyms:

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium

Company Identification: (USA) Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

Risk Phrases: 11 19 36/37

CAS#: 109-99-9
Chemical Name: Tetrahydrofuran
%: 97.8
EINECS#: 203-726-8
Hazard Symbols: F XI

Risk Phrases: 11

CAS#: 15489-27-7
Chemical Name: Dilithium tetrachlorocuprate
%: 2.2
EINECS#: unlisted
Hazard Symbols: F

Text for R-phrases: see Section 16

Hazard Symbols:



Risk Phrases:

XI F



11 19 36/37

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Causes skin irritation. Air sensitive. Moisture sensitive. May be harmful if swallowed. May cause central nervous system depression. May be absorbed through intact skin. May cause severe eye irritation and possible injury. May cause liver and kidney damage. Causes digestive and respiratory tract irritation. May cause cancer based on animal studies.

Uninhibited material, or material from which the inhibitor has been removed or reacted, may form explosive peroxides.

Extremely flammable liquid and vapor. Vapor may cause flash fire. Target Organs: Kidneys, central nervous system, liver.

Potential Health Effects

- Eye:** Contact with eyes may cause severe irritation, and possible eye burns. Vapors may cause eye irritation. Contact may cause ulceration of the conjunctiva and cornea.
- Skin:** May cause skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. May be absorbed through the skin. If absorbed, causes symptoms similar to those of inhalation.
- Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.
- Inhalation:** Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause respiratory tract irritation. Inhalation of vapor may cause respiratory tract irritation. May cause liver and kidney damage.
- Chronic:** Possible cancer hazard based on tests with laboratory animals. Prolonged or repeated eye contact may cause conjunctivitis. Prolonged or repeated skin contact may cause defatting and dermatitis. May cause liver and kidney damage.

Section 4 - First Aid Measures

- Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
- Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure.
- Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
- Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
- Notes to Physician:**

Section 5 - Fire Fighting Measures

- General Information:** If breathing is difficult, give oxygen. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Extremely flammable liquid and vapor. Forms peroxides of unknown stability. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.
- Extinguishing Media:** Use water spray to cool fire-exposed containers. Water may be ineffective. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out. In case of fire, use carbon dioxide, dry chemical powder or appropriate foam.
- Autoignition Temperature:** Not available
- Flash Point:** -17 deg C (1.40 deg F)
- Explosion Limits: Lower:** Not available
- Explosion Limits: Upper:** Not available
- NFPA Rating:** NFPA Rating:

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. Use water spray to dilute spill to a non-flammable mixture. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Isolate area and deny entry.

Section 7 - Handling and Storage

Wash thoroughly after handling. Use only in a well-ventilated area. Ground and bond containers when transferring

material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Prevent build up of vapors to explosive concentration. 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. Keep away from sources of ignition. Store in a cool place in the original container and protect from sunlight. Keep under a nitrogen blanket. Keep from contact with oxidizing materials. Regularly check inhibitor levels to maintain peroxide levels below 1%.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Tetrahydrofuran	50 ppm; 100 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous route	200 ppm TWA; 590 mg/m3 TWA 2000 ppm IDLH (10% LEL)	200 ppm TWA; 590 mg/m3 TWA
Dilithium tetrachlorocuprate	none listed	1 mg/m3 TWA (dust and mist, as Cu, except copper fume) (listed under Copper compounds, n.o.s.). 100 mg/m3 IDLH (dust and mist, as Cu) (listed under Copper compounds, n.o.s.).	none listed

OSHA Vacated PELs: Tetrahydrofuran: 200 ppm TWA; 590 mg/m3 TWA Dilithium tetrachlorocuprate: None listed

Engineering Controls:

Use explosion-proof ventilation equipment.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

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

Color: orange

Odor: Not available

pH: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: Not available

Freezing/Melting Point: Not available

Decomposition Temperature: Not available

Solubility in water: Not available

Specific Gravity/Density: .9100g/cm³

Molecular Formula: CuCl₄Li₂

Molecular Weight: 219.24

Section 10 - Stability and Reactivity

Chemical Stability: Prolonged exposure to air and sunlight may form unstable peroxides. Explosive peroxides may form on concentration. Peroxides can be detonated by friction, impact, or heating. Peroxide formation may occur in containers that have been opened and remain in storage. Normally stable; however, on long term storage, materials containing similar functional groups form peroxides of unknown stability.

Conditions to Avoid: Mechanical shock, light, ignition sources, exposure to air, excess heat, electrical sparks, friction, exposure to flame.

Incompatibilities with Other Materials: Not available

Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, carbon dioxide.

Hazardous Polymerization: May occur.

Section 11 - Toxicological Information

RTECS#: CAS# 109-99-9: LU5950000
CAS# 15489-27-7: None listed

RTECS:
CAS# 109-99-9: Inhalation, rat: LC₅₀ = 21000 ppm/3H;
Oral, rat: LD₅₀ = 1650 mg/kg;

LD50/LC50: .

RTECS:
CAS# 15489-27-7:

Carcinogenicity: Tetrahydrofuran - ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
Dilithium tetrachlorocuprate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: FLAMMABLE LIQUIDS, N.O.S.

Hazard Class: 3

UN Number: UN1993

Packing Group: II

Canada TDG

Shipping Name: Not available

Hazard Class:

UN Number:

Packing Group:

USA RQ: CAS# 109-99-9: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XI F

Risk Phrases:

R 11 Highly flammable.

R 19 May form explosive peroxides.

R 36/37 Irritating to eyes and respiratory system.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 29 Do not empty into drains.

S 33 Take precautionary measures against static discharges.

WGK (Water Danger/Protection)

CAS# 109-99-9: 1

CAS# 15489-27-7: Not available

Canada

CAS# 109-99-9 is listed on Canada's DSL List

Canadian WHMIS Classifications: B2

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.

CAS# 109-99-9 is listed on Canada's Ingredient Disclosure List

CAS# 15489-27-7 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 109-99-9 is listed on the TSCA Inventory.

CAS# 15489-27-7 is not listed on the TSCA Inventory. It is for research and development use only.

Section 16 - Other Information

MSDS Creation Date: 6/03/1999

Revision #6 Date 7/20/2009

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 the company 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 the company has been advised of the possibility of such damages.
