

Section 1 - Product and Company Information

Product Name LEUKOTRIENE D4
Product Number L5011
Brand SIGMA
Company Sigma-Aldrich Canada, Ltd
Address 2149 Winston Park Drive
Oakville ON L6H 6J8 CA
Technical Phone: 9058299500
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Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	Percent	SARA 313
LEUKOTRIENE D4	None		Yes
Ingredient Name	CAS #	Percent	SARA 313
METHANOL	67-56-1	66	Yes
WATER	7732-18-5	28	No

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable (USA) Highly Flammable (EU). Toxic.
Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. Danger: Poison. Cannot be made non-poisonous. May be fatal or cause blindness if swallowed. Vapor harmful. Causes eye and skin irritation. Target organ(s): Eyes. Kidneys.

HMIS RATING

HEALTH: 2*
FLAMMABILITY: 3
REACTIVITY: 0

NFPA RATING

HEALTH: 2
FLAMMABILITY: 3
REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS

Flammable Hazards: Yes

EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

ENVIRONMENTAL PRECAUTION(S)

Do not allow material to enter drains or water courses. Avoid contaminating sewers and waterways with this material.

Section 7 - Handling and Storage

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HANDLING

User Exposure: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not use if skin is cut or scratched. Wash thoroughly after handling.

STORAGE

Suitable: Store under argon. Keep tightly closed. Keep away from heat, sparks, and open flame.
Store at -70°C

SPECIAL REQUIREMENTS

Air and light sensitive.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Use supplied-air or SCBA respirators. Europe permits the use of type AXBEK full-face cartridge respirators (EN 14387).
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Discard contaminated clothing and shoes.

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	100 MG/M3
Poland		NDSch	300 MG/M3
Poland		NDSP	-

Section 9 - Physical/Chemical Properties

Appearance Physical State: Liquid
Color: Colorless Clear

Property	Value	At Temperature or Pressure
Molecular Weight	496.7 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	

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Partition Coefficient N/A
Decomposition Temp. N/A
Flash Point N/A
Explosion Limits N/A
Flammability N/A
Autoignition Temp N/A
Refractive Index N/A
Optical Rotation N/A
Miscellaneous Data N/A
Solubility N/A

N/A - not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Unstable.
Conditions of Instability: Air and light sensitive.
Materials to Avoid: Acids, Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: Toxic if absorbed through skin.
Eye Contact: May cause eye irritation.
Inhalation: Toxic if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: Toxic if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Eyes. Kidneys. Liver. Heart.

SIGNS AND SYMPTOMS OF EXPOSURE

Gastrointestinal disturbances. Nausea, headache, and vomiting. Ingestion can cause: Methyl alcohol may be fatal or cause blindness if swallowed. Cannot be made non-poisonous. Dizziness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Unconsciousness. Drowsiness. Confusion. Weakness.

CONDITIONS AGGRAVATED BY EXPOSURE

Some leukotrienes are potent bronchoconstrictors that play an important role in immediate hypersensitivity reactions. In addition, they may be involved in the inflammatory process, some acting as potent chemotactic agents.

CHRONIC EXPOSURE - TERAIOGEN

Result: Laboratory experiments have shown teratogenic effects.

CHRONIC EXPOSURE - MUTAGEN

Result: Laboratory experiments have shown mutagenic effects.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Result: Overexposure may cause reproductive disorder(s) based on

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tests with laboratory animals.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Methanol solution
UN#: 1230
Class: 3
Packing Group: Packing Group II
Hazard Label: Flammable liquid
PIH: Not PIH

IATA

Proper Shipping Name: Methanol solution
IATA UN Number: 1230
Hazard Class: 3
Packing Group: II

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: F+T
Indication of Danger: Highly Flammable. Toxic.
R: 11-23/24/25-39/23/24/25
Risk Statements: Highly flammable. Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
S: 7-16-36/37-45
Safety Statements: Keep container tightly closed. Keep away from sources of ignition - no smoking. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: LABEL TEXT (USA) Highly Flammable (EU). Toxic.
Risk Statements: Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Irritating to eyes and skin.
Safety Statements: Keep container tightly closed. Keep away from sources of ignition - no smoking. Avoid contact with skin. Take precautionary measures against static discharges. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
US Statements: Danger: Poison. Cannot be made non-poisonous. May be fatal or cause blindness if swallowed. Vapor harmful. Causes

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eye and skin irritation. Target organ(s): Eyes. Kidneys.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
NOTES: This product is or contains a component that is subject to SARA313 reporting requirements.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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