

# SAFETY DATA SHEET

Creation Date 05-August-2010

Revision Date 14-March-2026

Revision Number 9

This safety data sheet was created pursuant to the requirements of: Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR) - SOR 2022-272

## 1. Identification

**Product Name** Diethylaluminium chloride, 1M solution in hexanes

**Cat No. :** AC199520000; AC199521000; AC199528000

**Synonyms** DEAC

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

### Details of the supplier of the safety data sheet

#### Company

##### **Importer/Distributor**

Fisher Scientific  
112 Colonnade Road,  
Ottawa, ON K2E 7L6,  
Canada  
Tel: 1-800-234-7437

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

##### **Manufacturer**

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

#### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## 2. Hazard(s) identification

### Classification

#### **WHMIS 2015 Classification**

This product is hazardous in accordance with the Canada Hazardous Products Act (HPA) and Hazardous Products Regulation (HPR), as amended (SOR/2022-272)

<b>Flammable liquids</b>	Category 2	
<b>Substances/mixtures which, in contact with water, emit flammable gases</b>	Category 1	Gas(es) = Ethane
<b>Skin Corrosion/Irritation</b>	Category 1 B	
<b>Serious Eye Damage/Eye Irritation</b>	Category 1	
<b>Reproductive Toxicity</b>	Category 2	
<b>Specific target organ toxicity (single exposure)</b>	Category 3	
Target Organs - Central nervous system (CNS), Respiratory system.		
<b>Specific target organ toxicity - (repeated exposure)</b>	Category 1	
Target Organs - Central nervous system (CNS), Peripheral Nervous System (PNS).		
<b>Aspiration Toxicity</b>	Category 1	
<b>Physical Hazards Not Otherwise Classified</b>	Category 1	
Reacts violently with water		

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**Label Elements****Signal Word**

Danger

**Hazard Statements**

Highly flammable liquid and vapor

In contact with water releases flammable gases which may ignite spontaneously

May be fatal if swallowed and enters airways

Causes severe skin burns and eye damage

May cause respiratory irritation

May cause drowsiness and dizziness

Suspected of damaging fertility

Causes damage to organs through prolonged or repeated exposure

Reacts violently with water

**Precautionary Statements****Prevention**

Do not allow contact with water

Keep container tightly closed

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Ground and bond container and receiving equipment

Do not breathe dust/fumes/gas/mist/vapours/spray

Wash face, hands and any exposed skin thoroughly after handling

Use only outdoors or in a well-ventilated area

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

Use non-sparking tools

Take action to prevent static discharges

Handle and store contents under inert gas. Protect from moisture

**Response**

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing

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/doctor

Rinse mouth

Do NOT induce vomiting

Wash contaminated clothing before reuse

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

IF ON SKIN: Brush off loose particles from skin. Immerse in cool water

**Storage**

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Store in a dry place. Store in a closed container

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Hazards**

Toxic to aquatic life with long lasting effects

### 3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Hexane	110-54-3	83
Diethylaluminium chloride	96-10-6	17

### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give 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. If not breathing, give artificial respiration. Risk of serious damage to the lungs (by aspiration).
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward.
<b>Most important symptoms/effects</b>	Difficulty in breathing. Causes burns by all exposure routes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Dry chemical. Dry sand. Water mist may be used to cool closed containers.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	-22 °C / -7.6 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	7.7%
<b>Lower</b>	1.2%
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### Specific Hazards Arising from the Chemical

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

#### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen chloride gas. Ethane.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

**NFPA**Health  
3Flammability  
4Instability  
0Physical hazards  
N/A W**6. Accidental release measures****Personal Precautions**

Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**

Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage.

**Methods for Containment and Clean Up**

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

**7. Handling and storage****Handling**

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use spark-proof tools and explosion-proof equipment. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance. Take precautionary measures against static discharges. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

**Storage.**

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Flammables area. Keep away from heat, sparks and flame. Keep away from water or moist air. Incompatible Materials. Strong oxidizing agents.

**8. Exposure controls / personal protection****Exposure Guidelines**

Component	Alberta	British Columbia	Ontario TWAEV	Quebec
Hexane	TWA: 50 ppm TWA: 176 mg/m <sup>3</sup> Skin	TWA: 20 ppm Skin	TWA: 50 ppm Skin	TWA: 50 ppm TWA: 176 mg/m <sup>3</sup> Skin

Component	Manitoba	New Brunswick	Newfoundland and Labrador	Nova Scotia
Hexane	TWA: 50 ppm Skin	TWA: 50 ppm Skin	TWA: 50 ppm Skin	TWA: 50 ppm Skin

Component	Nunavut	Prince Edward Island	Saskatchewan	Yukon
Hexane	TWA: 50 ppm STEL: 62.5 ppm Skin	TWA: 50 ppm	TWA: 50 ppm STEL: 62.5 ppm Skin	TWA: 100 ppm TWA: 360 mg/m <sup>3</sup> STEL: 125 ppm STEL: 450 mg/m <sup>3</sup>

Component	ACGIH TLV	OSHA PEL	NIOSH
Hexane 110-54-3 ( 83 )	TWA: 50 ppm Skin	(Vacated) TWA: 50 ppm (Vacated) TWA: 180 mg/m <sup>3</sup> TWA: 500 ppm TWA: 1800 mg/m <sup>3</sup>	IDLH: 1100 ppm REL = 50 ppm (TWA) REL = 180 mg/m <sup>3</sup> (TWA)

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures**

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers

are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

**Eye Protection** Goggles  
**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	Glove comments
Nitrile rubber Viton (R)	See manufacturers recommendations	-	Splash protection only

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

### **Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified 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.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Recommended Filter type:** low boiling organic solvent Type AX Brown conforming to EN371 or Organic gases and vapours filter Type A Brown conforming to EN14387

When RPE is used a face piece Fit Test should be conducted

### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

## 9. Physical and chemical properties

### Appearance

#### **Physical State**

Liquid

#### **Color**

Colorless

#### **Odor**

aromatic

#### **Odor Threshold**

No information available

### Property

#### Values

#### Remarks

#### • Method

#### **Melting Point/Range**

-95 °C / -139 °F

#### **Softening Point**

No data available

#### **Boiling Point/Range**

No information available

#### **Flash Point**

-22 °C / -7.6 °F

**Method -** No information available

#### **Flammability (liquid)**

Highly flammable

On basis of test data

#### **Flammability (solid,gas)**

Not applicable

Liquid

#### **Explosion Limits**

No data available

#### **Autoignition Temperature**

No data available

#### **Decomposition Temperature**

No data available

<b>pH</b>	No information available	
<b>Viscosity</b>	No data available	
<b>Water Solubility</b>	Reacts	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Hexane	4.11	
<b>Vapor Pressure</b>	No data available	
<b>Density / Specific Gravity</b>	0.711	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Vapor Density</b>	4.2	(Air = 1.0)
<b>Particle characteristics</b>	Not applicable (liquid)	

**Other Information**

<b>Molecular Formula</b>	C4 H10 Al Cl
<b>Molecular Weight</b>	120.56
<b>Explosive Properties</b>	Vapors may form explosive mixtures with air
<b>Substances/mixtures which, in contact with water, emit flammable gases</b>	Emitted gas ignites spontaneously Gas(es) = Ethane

## 10. Stability and reactivity

<b>Reactive Hazard</b>	Yes
<b>Stability</b>	Moisture sensitive. Air sensitive.
<b>Conditions to Avoid</b>	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to moist air or water. Exposure to air.
<b>Incompatible Materials</b>	Strong oxidizing agents
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Hydrogen chloride gas, Ethane
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	Water reactive. Reacts violently with water, liberating extremely flammable gases.

## 11. Toxicological information

**Information on expected route of exposure**

<b>Inhalation</b>	Not an expected route of exposure.
<b>Ingestion</b>	Harmful if swallowed. Potential for aspiration if swallowed.
<b>Eyes</b>	Corrosive to the eyes and may cause severe damage including blindness. Risk of serious damage to eyes. Avoid contact with eyes.
<b>Skin</b>	Avoid contact with skin. Contact with moist skin may cause skin burns. Causes burns. Skin Corrosion/Irritation.

**Toxicology data for the components**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hexane	LD50 = 25 g/kg ( Rat )	LD50 = 3000 mg/kg ( Rabbit )	LC50 = 48000 ppm ( Rat ) 4 h

<b>Toxicologically Synergistic Products</b>	No information available
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<b>(b) skin corrosion/irritation;</b>	No data available
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(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory No data available  
Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity;

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Hexane	110-54-3	Not listed	Not listed	Not listed	Not listed	Not listed
Diethylaluminum chloride	96-10-6	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

Reproductive Effects Possible risk of impaired fertility.

(h) STOT-single exposure; No data available

Results / Target organs Central nervous system (CNS).

(i) STOT-repeated exposure; Category 1

Target Organs Central nervous system (CNS), Peripheral Nervous System (PNS).

(j) aspiration hazard; Category 1

Other Adverse Effects The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Other Adverse Effects The toxicological properties have not been fully investigated.

Endocrine Disrupting Properties This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Hexane	Not listed	LC50: 2.1 - 2.98 mg/L, 96h flow-through (Pimephales promelas)	Not listed	EC50: 3.87 mg/L/48h

Persistence and Degradability May persist

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Hexane	4.11

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

#### DOT

**UN-No** UN2845  
**Proper Shipping Name** consumer commodity  
**Technical Shipping Name** Hexane, Diethylaluminium chloride  
**Hazard Class** 4.2  
**Packing Group** I

#### TDG

**UN-No** UN2845  
**Technical Shipping Name** Hexane, Diethylaluminium chloride  
**Hazard Class** 4.2  
**Packing Group** I

#### IATA

FORBIDDEN FOR IATA TRANSPORT  
**UN-No** UN3394  
**Proper Shipping Name** ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, FORBIDDEN FOR IATA TRANSPORT  
**Technical Shipping Name** Hexane, Diethylaluminium chloride  
**Hazard Class** 4.2  
**Subsidiary Hazard Class** 4.3  
**Packing Group** I

#### IMDG/IMO

**UN-No** UN3394  
**Proper Shipping Name** ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE  
**Technical Shipping Name** Hexane, Diethylaluminium chloride  
**Hazard Class** 4.2  
**Subsidiary Hazard Class** 4.3  
**Packing Group** I

### 15. Regulatory information

#### International Inventories

Component	CAS-No	DSL	NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
Hexane	110-54-3	X	-	X	ACTIVE	203-777-6	438-390-3	-
Diethylaluminium chloride	96-10-6	X	-	X	ACTIVE	202-477-2	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
Hexane	110-54-3	X	KE-18626	X	X	X	X	X	X
Diethylaluminium chloride	96-10-6	X	KE-10384	X	X	X	X	X	X

#### Legend:

X - Listed '-' - Not listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances  
 KECL - Korean Existing and Evaluated Chemical Substances  
 ENCS - Japanese Existing and New Chemical Substances  
 AICS - Australian Inventory of Chemical Substances  
 PICCS - Philippines Inventory of Chemicals and Chemical Substances

#### Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and its amendments and meets the requirements of the HPR (Paragraph 13(1)(a) of the revised Hazardous Products Act (HPA)).

Component	Canada - National Pollutant Release Inventory (NPRI)	Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances	Canada's Chemicals Management Plan (CEPA)
Hexane	Part 1, Group A Substance Part 5, Individual Substances Part 4 Substance		Subject to Monitoring and Surveillance Activities

#### Other International Regulations

##### Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Hexane	-	Use restricted. See entry 75. (see link for restriction details)	SVHC candidate list - EC 203-777-6 - Specific target organ toxicity after repeated exposure Article 57(f) - human health

##### REACH links

<https://echa.europa.eu/substances-restricted-under-reach>  
<https://echa.europa.eu/candidate-list-table>

##### Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

##### Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS-No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Hexane	110-54-3	Listed	Not applicable	Not applicable	Not applicable
Diethylaluminium chloride	96-10-6	Listed	Not applicable	Not applicable	Not applicable

Component	CAS-No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Hexane	110-54-3	Not applicable	Not applicable	Not applicable	Annex I - Y42
Diethylaluminium chloride	96-10-6	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

##### Prepared By

Product stewardship (Regulatory Affairs)  
 Thermo Fisher Scientific  
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<b>Print Date</b>	14-March-2026
<b>Revision Summary</b>	This document has been updated to comply with the requirements of WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR) to align with the Globally Harmonised System (GHS) (V7/8) for the Classification and Labelling of Chemicals.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**