

## SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifiers

Product name: Diisopropyl fluorophosphate  
CAS-No.: 55-91-4

EC number: 200-247-6  
Product Code: GEO-01118

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances

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

Georganics Ltd., Koreničova 1, 811 03 Bratislava, Slovak Republic  
Phone Number: +421 33 6403132, E-mail address: georganics@georganics.sk

### 1.4 Emergency telephone number: National Toxicological Information Centre, Tel: +421-2-54774166, Mob: +421 911 166 066

## SECTION 2 - HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### 2.1.1 Classification according to Regulation (EC) No 1272/2008 (CPL)

Acute toxicity, Oral (Category 1), H300  
Acute toxicity, Inhalation (Category 2), H330  
Acute toxicity, Dermal (Category 2), H310

#### 2.1.2 Additional information: For full text of Hazard- and EU Hazard-statements: see SECTION 16.

### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

#### Hazard pictogram:



Signal word:  
Danger

#### Hazard statements:

H300-Fatal if swallowed  
H310-Fatal in contact with skin  
H330-Fatal if inhaled

#### Precautionary statements:

P260-Do not breathe dust/fume/gas/mist/vapours/spray:  
P262-Do not get in eyes, on skin, or on clothing:  
P280-Wear protective gloves/protective clothing/eye protection/face protection:  
P284-Wear respiratory protection:  
P302+P352+P310-IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.  
P304+P340+P310-IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

#### Supplemental Hazard information (EU): Not applicable

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS

### 3.1 Substances

| Identification numbers        | Substance name              | Concentration | Classification according to Regulation (EC) No 1272/2008 | SCL / M-factor / ATE |
|-------------------------------|-----------------------------|---------------|--|----------------------|
| CAS: 55-91-4<br>EC: 200-247-6 | Diisopropyl fluorophosphate | <= 100%       | H300;H310;H330   | -                    |

## SECTION 4 - FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General notes

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

**SECTION 5 - FIREFIGHTING MEASURES****5.1 Extinguishing media**

**Suitable extinguishing media:** Foam, Carbon dioxide (CO<sub>2</sub>), Dry powder

**Unsuitable extinguishing media:** -

**5.2 Special hazards arising from the substance or mixture** - During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion. Carbon oxides. Oxides of phosphorus. Hydrogen fluoride. Combustible.

**5.3 Advice for firefighters** - Wear self-contained breathing apparatus and protective clothing to prevent contact with skin/eyes.

**5.4 Further information** - Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

**6.1 Personal precautions, protective equipment and emergency procedures** - Wear protective equipment. Ensure adequate ventilation. Keep unprotected persons away. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. Wash spill site after material pickup is complete.

**6.2 Environmental precautions** - Prevent further leakage or spillage if safe to do so. Do not let this chemical enter the environment.

**6.3 Methods and materials for containment and cleaning up** - Spilled product should be covered with suitable (non-flammable) absorbing material. Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation

**6.4 Reference to other sections** - See Section 7 for information on safe handling. See section 8 for information on personal protection equipment. See Section 13 for information on disposal.

**SECTION 7 - HANDLING AND STORAGE**

**7.1 Precautions for safe handling** - For precautions see section 2.2.

Read carefully the safety instruction before opening the container.

Before opening container, a 2% solution of sodium hydroxide should be in readiness. If bottle inside is broken, immerse entire can and contents into solution. Excess DFP and all contaminated apparatus should be treated similarly. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Remove contaminated clothing and protective equipment before entering eating areas.

**7.2 Conditions for safe storage, including any incompatibilities** - Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Recommended storage temperature 2 - 8 °C. Handle and open container with care. Air and moisture sensitive. See Section 10 for stability and reactivity information.

**7.3 Specific end use(s)** - No further relevant information available

**SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION****8.1 Control parameters****8.2 Exposure controls**

**Engineering Controls:** Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels. Safety shower and eye bath.

**Personal Protective Equipment**

**Eye and face protection:** Wear chemical safety glasses.

**Skin protection:** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory protection:** Wear appropriate protective mask with a filter against organic vapors.

**Thermal hazard:** No data available

**Environmental exposure controls:** Do not let product enter drains.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

|   |                    |   |   |
|---|--------------------|---|---|
| <b>Physical state:</b>                  | Liquid             | <b>Decomposition temperature:</b>                         | No data available   |
| <b>Color:</b>                           | Clear colorless    | <b>pH:</b>  | No data available   |
| <b>Odor:</b>                            | No data available  | <b>Kinematic viscosity:</b>                               | No data available   |
| <b>Freezing/Melting Point:</b>          | -82 °C             | <b>Solubility:</b>  | in water: 14,5 gl-1/25°C<br>in vegetable oils, in alcohol, in ether |
| <b>Boiling Point:</b>                   | 62°C/9mm; 46°C/5mm | <b>Partition coefficient n-octanol/water (log value):</b> | No data available   |
| <b>Flammability:</b>                    | No data available  | <b>Vapor pressure:</b>                                    | 0,579mm Hg/20°C   |
| <b>Lower and upper explosion limit:</b> | No data available  | <b>Density and/or relative density:</b>                   | 1,055   |
| <b>Flash Point:</b>                     | No data available  | <b>Relative vapor density:</b>                            | No data available   |
| <b>Auto-ignition temperature:</b>       | No data available  | <b>Particle characteristics:</b>                          | No data available   |

**9.2 Other safety information** - No data available

**SECTION 10 - STABILITY AND REACTIVITY****10.1 Reactivity** - No data available**10.2 Chemical stability** - The product is chemically stable under standard ambient conditions (room temperature)**10.3 Possibility of hazardous reactions** - No data available**10.4 Conditions to avoid** - Incompatible materials, Contact with acid or moisture releases highly toxic fumes, open flames and high temperature**10.5 Incompatible materials** - Strong oxidizing agents, strong bases, strong acids**10.6 Hazardous decomposition products** - Carbon oxides, Oxides of phosphorus, Hydrogen fluoride**SECTION 11 - TOXICOLOGICAL INFORMATION****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity**

|   |  |
|---|--|
| LD50 Oral - Mouse - 2 mg/kg<br>Remarks: (RTECS)<br>Acute toxicity estimate Oral - 2 mg/kg<br>(Calculation method)<br>Acute toxicity estimate Inhalation - 4 h - 0,6 mg/l - vapor<br>(Expert judgment) | LD50 Dermal - Rabbit - 117 mg/kg<br>Remarks: (RTECS)<br>Acute toxicity estimate Dermal - 117 mg/kg<br>(Calculation method) |
|---|--|

**Skin irritation or corrosion** - Causes skin irritation**Serious eye damage / irritation** - Causes serious eye irritation.**Respiratory or skin sensitization** - No data available**Germ cell mutagenicity** - No data available**Carcinogenicity** - No data available**Reproductive toxicity** - No data available**Specific target organ system toxicity (STOT) - repeated exposure:** No data available**Specific target organ system toxicity (STOT) - single exposure:** No data available**11.2 Additional Information** - To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Other dangerous properties cannot be excluded. This substance should be handled with particular care.**SECTION 12 - ECOLOGICAL INFORMATION****12.1 Toxicity** - No data available**12.2 Persistence and degradability** - No data available**12.3 Bioaccumulative potential** - No data available**12.4 Mobility in soil** - No data available**12.5 Results of PBT and vPvB assessment** - This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.**12.6 Endocrine disrupting properties** - No data available**12.7 Other adverse effects** - No data available**12.8 Additional information** - No data available**SECTION 13 - DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal. The product must not be disposed of with municipal waste.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14 - TRANSPORT INFORMATION****14.1 UN number:** ADR/RID: 3382 IMDG: 3382 IATA: 3382**14.2 UN proper shipping name:**

ADR/RID: TOXIC BY INHALATION LIQUID, N.O.S. (Diisopropyl fluorophosphate)

IMDG: TOXIC BY INHALATION LIQUID, N.O.S. (Diisopropyl fluorophosphate)

IATA: TOXIC BY INHALATION LIQUID, N.O.S. (Diisopropyl fluorophosphate)

Passenger Aircraft: Not permitted for transport

Cargo Aircraft: Not permitted for transport

**14.3 Transport hazard class(es)**

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

**14.4 Packing group**

ADR/RID: I

IMDG: I

IATA: -

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**14.6 Special precautions for user:** No data available**14.7 Maritime transport in bulk according to IMO instruments** - No data available

**SECTION 15 - REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 as amended. Environmental Protection Act 1990 as amended. Clean Air Act 1993 as amended. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended.

**15.2 Chemical safety assessment** - No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

**SECTION 16 - OTHER INFORMATION****Key to abbreviations and acronyms used in the safety data sheet**

ATE - Acute Toxicity Estimate

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

CEN - European Committee for Standardisation

C&L - Classification and Labelling

CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

CAS# - Chemical Abstracts Service number

CMR - Carcinogen, Mutagen, or Reproductive Toxicant

CSA - Chemical Safety Assessment

CSR - Chemical Safety Report

DNEL - Derived No Effect Level

DPD - Dangerous Preparations Directive 1999/45/EC

DSD - Dangerous Substances Directive 67/548/EEC

DU - Downstream User

EC - European Community

ECHA - European Chemicals Agency

EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)

EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)

EEC - European Economic Community

EINECS - European Inventory of Existing Commercial Substances

ELINCS - European List of notified Chemical Substances

EN - European Standard

EQS - Environmental Quality Standard

EU - European Union

Euphrac - European Phrase Catalogue

EWC - European Waste Catalogue (replaced by LoW – see below)

GES - Generic Exposure Scenario

GHS - Globally Harmonized System

IATA - International Air Transport Association

ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air

IMDG - International Maritime Dangerous Goods

IMSBC - International Maritime Solid Bulk Cargoes

IT - Information Technology

IUCLID - International Uniform Chemical Information Database

IUPAC - International Union for Pure Applied Chemistry

JRC - Joint Research Centre

Kow - octanol-water partition coefficient

LC50 - Lethal Concentration to 50 % of a test population

LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)

LE - Legal Entity

LoW - List of Wastes

(<http://ec.europa.eu/environment/waste/framework/list.htm>)

LR - Lead Registrant

M/I - Manufacturer / Importer

MS - Member States

MSDS - Material Safety Data Sheet

OC - Operational Conditions

OECD - Organization for Economic Co-operation and Development

OEL - Occupational Exposure Limit

OJ - Official Journal

OR - Only Representative

OSHA - European Agency for Safety and Health at work

PBT - Persistent, Bioaccumulative and Toxic substance

PEC - Predicted Effect Concentration

PNEC(s) - Predicted No Effect Concentration(s)

PPE - Personal Protection Equipment

(Q)SAR - Qualitative Structure Activity Relationship

REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

RID - Regulations concerning the International Carriage of Dangerous Goods by Rail

RIP - REACH Implementation Project

RMM - Risk Management Measure

SCBA - Self-Contained Breathing Apparatus

SDS - Safety data sheet

SIEF - Substance Information Exchange Forum

SME - Small and Medium sized Enterprises

STOT - Specific Target Organ Toxicity

(STOT) RE - Repeated Exposure

(STOT) SE - Single Exposure

SVHC - Substances of Very High Concern

UFI - Unique Formula Identifier

UN - United Nations

vPvB - Very Persistent and Very Bioaccumulative

The information contained in the SDS are compiled according to the present knowledge of the manufacturer. It does not represent any guarantee of the properties of the product. SDS shall be used only as a guide. Georganics Ltd. is not liable for damages incurred in the handling or contact with chemicals.