MATERIAL SAFETY DATA SHEET
DIISOPROPYL FLUOROPHOSPHATE

Revision: 08/02/2011

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Company Identification:</th>
<th>Georganics Ltd.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Koreničova 1</td>
</tr>
<tr>
<td></td>
<td>811 03 Bratislava</td>
</tr>
<tr>
<td></td>
<td>Slovak Republic</td>
</tr>
<tr>
<td>Phone Number:</td>
<td>+421 33 6403132</td>
</tr>
<tr>
<td>Fax Number:</td>
<td>+421 33 6403133</td>
</tr>
<tr>
<td>E-mail address:</td>
<td><a href="mailto:georganics@georganics.sk">georganics@georganics.sk</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emergency Number, Slovakia:</th>
<th>National Toxicological Information Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tel:</td>
<td>00421-2-54774166</td>
</tr>
<tr>
<td>Mobil:</td>
<td>+421 911 166 066</td>
</tr>
</tbody>
</table>

SECTION 2 - HAZARDS IDENTIFICATION

Hazard Symbol: T+ - Very Toxic

Risk Phrases:
R26/27/28 - Very toxic by inhalation, in contact with skin and if swallowed.

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

Signal word: Danger
P201 - Obtain special instructions before use
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P361 - Remove/Take off immediately all contaminated clothing
P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Assay (%)</th>
<th>EINECS#</th>
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<tbody>
<tr>
<td>55-91-4</td>
<td>Diisopropyl fluorophosphate</td>
<td>99</td>
<td>200-247-6</td>
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</table>

SECTION 4 - FIRST AID MEASURES

Eyes: Rinse opened eye for at least 15 minutes under running water. Get medical aid.
Skin: Instantly wash with water and soap and rinse thoroughly. Get medical aid.
Ingestion: Get medical aid. Wash mouth out with water.
Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. If required, provide artificial respiration. Get medical aid.

SECTION 5 - FIRE FIGHTING MEASURES

Explosion: may develop pressure in the heat
Fire: move container from fire area if you can do it without risk
Fire fighting: self - contained breathing apparatus
Fire degradation products: hydrogen fluoride and carbon monoxide, vapors from the liquid are extremely irritating to the eyes and mucous membranes
Fire extinguishing procedures: dry chemical, carbon dioxide or foam

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Person-related safety precautions:
Wear positive pressure breathing apparatus and special protective clothing. Do not touch spilled material, stop leak if you can do it without risk.
Take up with liquid absorbent material such as Chemizorb® and place it in to containers for later disposal and forward for disposal.

Additional information: 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

Handling: Must be kept refrigerated. 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.
Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Ensure adequate ventilation.


SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels. Use only under a chemical fume hood. Safety shower and eye bath.

Personal Protective Equipment

Eyes: Wear chemical safety glasses.
Skin: Wear appropriate protective gloves and clothing to prevent skin exposure.
Clothing: Wear appropriate protective work clothing.
Respirators: Use breathing protection with high concentrations.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form: Oily liquid
Color: Clear Colorless
Density: 1,055
Boiling Point: 62°C/9mm; 46°C/5mm
Freezing/Melting Point: -82 °C
Autoignition Temperature (kindling point): Not available
Flash Point: Not available
Decomposition Temperature: Not available
Solubility in water: in water: 14.5 gl-1/25°C
in vegetable oils, in alcohol, in ether
Specific Gravity/Density: Not available
Refractive Index: 1.3830/5°C; 1.3850/20°C
Vapor pressure: 0.579mm Hg/20°C
Molecular Formula: C₆H₁₄PO₃P
Molecular Weight: 184.15

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability: Stable at room temperature in glass containers
Condition to avoid: Open flames and high temperature. Incompatible products. Exposure to airs or water.
Incompatibility: Strong oxidizing agents, strong bases, strong acids
Reaction products: Contact with acid or moisture releases highly toxic fumes

SECTION 11 - TOXICOLOGICAL INFORMATION

Highly toxic! Cholinesterase inhibitor!

Target organ: Nerves
Routes of entry: readily absorbed through skin; inhalation; eye contact
Eye: irritation, miosis
Inhalation: dyspnea (difficult breathing), pulmonary edema, coma
LD₅₀ orl-rat: 5 mg/kg
LD₅₀ ipr-rat: 1280 µg/kg
LD₅₀ scu-rat: 1440 µg/kg
Carcinogenicity: There are no known carcinogenic chemicals in this product. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Other: The toxicological properties have not been fully investigated. see an enclosed ISIS/RISKLINE data

SECTION 12 - ECOLOGICAL INFORMATION

Avoid entering into waters or underground water.

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.
SECTION 14 - TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>IATA</th>
<th>IMDG/IMO</th>
<th>RID/ADR</th>
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<td>TOXIC LIQUID, ORGANIC</td>
<td>TOXIC LIQUID, ORGANIC</td>
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<td>N.O.S.</td>
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<td>2810</td>
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<tr>
<td>Packing Group:</td>
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SECTION 15 - REGULATORY INFORMATION

European/International Regulations

**Hazard Symbols:** T+ - Very Toxic

**Risk Phrases:** R26/27/28 - Very toxic by inhalation, in contact with skin and if swallowed.

**Safety Phrases:**
- S23 - Do not breathe vapour.
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Canadian DSL/NDSL  CAS# 55-91-4 is listed on Canada's DSL or NDSL List.

US Federal TSCA  CAS# 55-91-4 is listed on the TSCA Inventory. It is for research and development use only.

SECTION 16 - OTHER INFORMATION

**WARRANTY**

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