1. IDENTIFICATION OF COMPANY & PRODUCT

Product Name: Dichlorvos 76% EC
Chemical Name: Dimethyl 2, 2-dichlorovinylphosphate (DDVP)
Brand Name: CROVEP-76
Users: Pesticide
Molecular Formula: C7H16ClN3O2S2
Manufacturer: CROP LIFE SCIENCE LTD.
Address: Plot No. 5165, 5166, 5151, G.I.D.C., Ankleshwar-393002
Gujarat, India
Tele Fax Number: 91 2646 238479

2. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Cas #</th>
<th>Percent Or Content(W/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl 2, 2-dichlorovinylphosphate (DDVP)</td>
<td>62-73-7</td>
<td>76.00 %</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>---</td>
<td>24.00 %</td>
</tr>
</tbody>
</table>

3. HEALTH HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS ROUTE(S) OF ENTRY: May be fatal if absorbed through the eye or skin, is ingested or is inhaled.

SIGNS OF ACUTE OVEREXPOSURE: Acute cholinesterase depression may be evidenced by headache, nausea, vomiting, diarrhea, abdominal cramps, excessive sweating, salivation and tearing, constricted pupils, blurred vision, tightness in chest, weakness, muscle twitching and confusion; in extreme cases, unconsciousness, convulsions, severe respiratory depression and death may occur. It should also be noted that because of the presence of the solvent, the product is irritating to the skin and eyes and may cause central nervous system depression.

SIGNS OF CHRONIC OVEREXPOSURE: Repeated exposures to small doses of DDVP and other organophosphates may lower the cholinesterase to levels where the above symptoms of acute overexposure are observed. In addition, there is evidence that chronic exposure to the solvent may cause central nervous system damage.

CARCINOGENICITY: EPA under its 1999 proposed Guidelines for Carcinogen Risk Assessment has classified DDVP as having "suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential." IARC lists DDVP (Dichlorvos) as being possibly carcinogenic to humans (Group 2B). CARE SHOULD BE EXERCISED IN HANDLING DDVP AND ITS FORMULATIONS.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Preexisting conditions which lower cholinesterase levels increase vulnerability to cholinesterase depression. These include: (for plasma) genetic cholinesterase deficiency; advanced liver disease; chronic alcoholism; malnutrition; dermatomyositis; existing toxicity from exposure to carbon disulfide; benzalkonium salts, organic mercury compounds, ciguatoxins or solanines; and (for RBC) hemolytic anemias.

4. FIRST AID MEASURES

DDVP IS A CHOLINESTERASE INHIBITOR. A PHYSICIAN SHOULD BE CONTACTED IN ALL CASES OF EXPOSURE TO DDVP AND ITS FORMULATIONS.

CAUTION: Persons attending victim should avoid direct contact with heavily contaminated clothing or vomitus. Rubber gloves should be worn by the emergency responder or medical personnel while washing the pesticide from skin and hair of the exposed victim.

EYES: Immediately flush the eyes with copious amounts of clear, cool running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyes and lids with water. Contact a physician immediately. If there will be a delay in getting medical attention, rinse the eyes for at least another 15 minutes.

INHALATION: Remove victim to fresh air. If breathing has ceased, clear the victim's airway and start mouth-to-mouth artificial respiration. If breathing is difficult, give oxygen. Contact a physician immediately.

INGESTION: DO NOT induce vomiting. If victim is conscious, administer an 8 oz. glass of water containing 2 tbsp. activated charcoal. Have person lie on their left side to slow down absorption of the ingested material. Never give anything by mouth to an unconscious person. Contact a physician immediately.

SKIN: Immediately flush all affected areas with large amounts of clear water for at least 15 minutes. Remove contaminated clothing. Do not attempt to neutralize with chemical agents. Wash clothing before reuse. Contact a physician immediately.

NOTE TO PHYSICIANS: This is an Organophosphate (OP) Insecticide. Do not wait for laboratory confirmation to treat patients with strong clinical evidence of poisoning. Contact your local poison control center for further recommendations regarding control of poisoning, emergency treatment, and other information regarding the toxicity of DDVP (Dichlorvos).

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
Flash Point: 90 degree C (Pensky-Martens c.c.)
Auto ignition Temperature: Not available
Flammability: This is a combustible liquid that will burn when heated (NFPA rating = 2)
EXPLOSIVITY
Mechanical Impact: Will not occur
Static Discharge: Not likely to occur

HAZARDOUS COMBUSTION PRODUCTS: This product will emit toxic fumes when burned, including carbon monoxide. Vapors of the unburned product may also be hazardous. Contact with the fumes and vapors should be avoided by staying upwind and by wearing impervious clothing and positive pressure self-contained breathing apparatus.

EXTINGUISHING MEDIA: Foam, dry chemical, carbon dioxide, water spray (fog).
FIRE FIGHTING INSTRUCTIONS: Evacuate nonessential personnel from the area. Keep upwind. Wear self-contained breathing apparatus and impervious clothing, including gloves and eye protection. Clean all clothing before reuse. Severely contaminated clothing cannot be adequately decontaminated, and must be disposed as a hazardous waste. Shower with soap and water after contact with this product.

6. ACCIDENTAL RELEASE MEASURES

GENERAL: Evacuate personnel and thoroughly ventilate the area. Use adequate ventilation and appropriate personal protective equipment (PPE, Section 8). Keep bystanders upwind and away from the spill.

SMALL SPILL: Cover with nonflammable absorbent (clay, sand, oil dry, kitty litter, etc.) to absorb the liquid. Sweep into an open plastic drum. Decontaminate the area and equipment with dilute alkali or ammonia (less than 5% solution) and detergent. Flush the area with water. Absorb and sweep into the same open plastic drum. Close the drum and dispose of as a hazardous waste.

LARGE SPILL: Dike the spill to prevent contamination of local water sources. Siphon the majority of the liquid into drums for use or disposal, depending on the circumstances clean the area as described for a small spill.

7. HANDLING AND STORAGE

HANDLING: Prevent skin contact. Do not breathe fumes. Wear appropriate personal protective equipment (PPE, Section 8). Wash thoroughly and change clothes after handling. Wash clothes separately; do not wash heavily contaminated clothing. Dispose of heavily contaminated clothing as a hazardous waste. Keep product away from food, drink, cosmetics, and tobacco products. See product label for more detailed handling procedures.

STORAGE: Do not contaminate water, food or feed by storage or disposal. Store product in a cool, dry, locked place out of reach of children. Store in original container.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

SKIN PROTECTION: Prevent skin contact. Chemical resistant gloves (preferably nitrile), coveralls or long-sleeved shirt and pants, and chemical resistant shoes or boots, are necessary to prevent skin contamination. A chemical resistant apron or chemical resistant clothing will provide additional protection when there is a risk of spillage or splashing. Remove contaminated clothing as soon as possible. Wash dirty or contaminated clothing separately from other clothes. Wear clean clothes daily. Wash well with soap and water after handling this product. See the label for more specific instructions.

EYE PROTECTION: Goggles or safety glasses and a face shield are required for anyone who is working with or near open containers of this product. See label or contact your distributor for more complete instructions.

OTHER PROTECTION: An eyewash station and a safety shower should be located in the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>PHYSICAL STATE</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPEARANCE</td>
<td>Blue-Amber liquid</td>
</tr>
<tr>
<td>ODOR</td>
<td>Specific odor</td>
</tr>
<tr>
<td>ODOR THRESHOLD</td>
<td>Not available</td>
</tr>
<tr>
<td>BOILING POINT</td>
<td>&gt; 330 degree C</td>
</tr>
<tr>
<td>FREEZING/MELTING POINT</td>
<td>&lt; -10degreeC</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY</td>
<td>1.31 to 1.33 g/mL (20/C)</td>
</tr>
<tr>
<td>BULK DENSITY</td>
<td>10.93 to 11.10 lb. /gal</td>
</tr>
<tr>
<td>VAPOR PRESSURE (mm/hg)</td>
<td>Not available</td>
</tr>
<tr>
<td>VAPOR DENSITY</td>
<td>Heavier than air</td>
</tr>
<tr>
<td>PERCENT VOLATILE BY VOL</td>
<td>Not available</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER</td>
<td>Emulsifies</td>
</tr>
<tr>
<td>SOLUBILITY (Other)</td>
<td>Soluble in acetone and alcohols</td>
</tr>
<tr>
<td>PARTITION COEFFICIENT (O/W)</td>
<td>Not available</td>
</tr>
<tr>
<td>pH (1% emulsion in water)</td>
<td>3 to 5</td>
</tr>
<tr>
<td>EVAPORATION RATE</td>
<td>0.1 (compared to –Butyl acetate = 1.0)</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (Conditions to avoid): This product is stable under normal use and storage conditions.

INCOMPATIBILITY: Avoid strong oxidizers, strong acids, strong bases, heat, and sources of ignition. Is corrosive to aluminum and iron.

HAZARDOUS DECOMPOSITION PRODUCTS: Heating product to decomposition will cause emission of acrid smoke and fumes of hydrogen chloride, phosphorous oxides, and carbon oxides.

HAZARDOUS POLYMERIZATION: This product will not polymerize.

11. TOXICOLOGICAL INFORMATION

INGESTION: Oral LD50 (rat): 80 mg/kg

INHALATION: Inhalation LC50 (rat): 0.45 mg/L (4 hr., vapor)

DERMAL: Skin LD50 (rabbit): 74 mg/kg

IRRITATION: Eye irritation: Irritant

Skin irritation: Irritant

SENSITIZATION: Skin sensitization: Probable Sensitizer (guinea pig)

TERATOGENICITY: Laboratory testing of DDVP Technical showed no evidence of teratogenicity in laboratory animals.

MUTAGENICITY: Laboratory testing of DDVP Technical showed no clear evidence of in vivo mutagenicity activity in mammalian assay systems.

CARCINOGENICITY: Two laboratory studies using DDVP Technical have shown a low incidence of fore stomach tumors in the mouse and mononuclear cell leukemia in the F344 rat. EPA under its 1999 proposed Guidelines for Carcinogen Risk Assessment has classified DDVP as having "suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential". IARC lists DDVP (Dichlorvos) as being possibly carcinogenic to humans (Group 2B)

REPRODUCTIVE TOXICITY: Reproductive effects with DDVP Technical have only been seen at a dose level which produced a generalized toxicity in the rat. There have been reproductive effects observed in laboratory animal studies run with Dibutyl phthalate. The relevance to humans is uncertain.

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: No data available.

12. ECOLOGICAL INFORMATION

GENERAL: This product is toxic to fish, birds, and other wildlife. Keep out of any body of water. Do not contaminate water when disposing of equipment wash waters or wastes.
ACUTE TOXICITY TO FISH: LC50 (trout) 0.96 mL/L (96 hr.)

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or reinstate is a violation of Federal law. If these wastes cannot be disposed by use according to label instructions, contact your nearest State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA regional office for guidance. Open dumping is prohibited.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of container in a sanitary landfill or by incineration, or, if allowed by National, State or local authorities, by burning. If burned, stay out of smoke. Contact your nearest National, State or Environmental Control Agency, or the Hazardous Waste representative at the nearest Regulatory regional office for guidance. Open dumping is prohibited.

14. TRANSPORT INFORMATION

DOT CLASS : 6.1
UN NUMBER : 3018
IMDG CLASS (sea) : 6.1
IATA (air) : 6.1
MARINE POLLUTANT : Yes
PACKING GROUP : III
HAZARD LABEL(S) : Toxic
ADR CLASS (road) : 6.1
PROPER SHIPPING NAME(S): Organophosphorous pesticide(s), liquid, toxic, (Dichlorvos)

PACKAGING
GENERAL DESCRIPTION: HDPE Containers

DISCLAIMER: This information is provided for the limited guidance to the user. While JSRUL believes that the information is, as of the date hereof, reliable, it is the user's responsibility to determine the suitability of the information for its purposes. The user is advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional, or variable conditions or circumstances exist (like combinations with other materials), or because of applicable regulations. No express or implied warranty of merchantability or fitness for a particular purpose or otherwise is made hereunder with respect to the information or the product to which the information relates.
15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: This product is registered under EPA/FIFRA Regulations as a RESTRICTED USE PESTICIDE. Due to acute toxicity, retail sale is limited to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator’s Certification. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

Section 311 & 312 Hazard Categories:
- Immediate Health Hazard: Yes
- Delayed Health Hazard: Yes
- Fire Hazard: Yes
- Reactive Hazard: No
- Sudden Pressure Release Hazard: No

Section 302 Extremely Hazardous Substances: DDVP (Dichlorvos, 62-73-7)

Section 313 Toxic Chemicals: Naled (300-76-5); DDVP (Dichlorvos, 62-73-7); Naphthalene (91-20-3)

16. OTHER INFORMATION

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