SAFETY DATA SHEET

Category 1



1. Identification

Product identifier Dylox® 420 SL Turf and Ornamental Insecticide

Other means of identification

SDS number 609

Product registration

number

EPA 5481-643-101563

Recommended useOrganophosphate insecticide. **Recommended restrictions**See product label for restrictions.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer Environmental Science U.S. LLC

Company name Suite 1200

Address 5000 Centregreen Way, Suite

400

Cary NC 27513

Telephone 1-800-331-2867

uscontact@envu.com

Emergency phone number +1 703-741-5970

2. Hazard(s) identification

Physical hazardsFlammable liquidsCategory 4Health hazardsAcute toxicity, oralCategory 4Acute toxicity, inhalationCategory 4Serious eye damage/eye irritationCategory 2BEnvironmental hazardsHazardous to the aquatic environment, acuteCategory 1

hazard

Hazardous to the aquatic environment,

long-term hazard

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Combustible liquid.

Harmful if swallowed. Harmful if inhaled. Causes eye irritation. Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Keep away from flames and hot surfaces-No smoking.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid breathing mist/vapor.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Wear protective gloves/eye protection/face protection.

Response IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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

Call a POISON CENTER/doctor if you feel unwell. In case of fire: Use appropriate media to extinguish.

Collect spillage.

Storage Store in a well-ventilated place. Keep cool.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

This product contains a cholinesterase inhibitor.

Supplemental information

This is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced in section 15. The pesticide label also includes other important information, including directions for use.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Trichlorfon	O,O-Dimethyl(1-hydroxy-2,2,2-trichloroeth yl)phosphonate Chlorofos Dipterex DYLOX Metrifonate	52-68-6	37.3
2-(2-Methoxyethoxy)-ethanol		111-77-3	62.7

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Get medical advice/attention if you feel unwell.

Most important

symptoms/effects, acute and

delayed

Ingestion

Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. 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.

Repeated exposures to small doses of organophosphates may lower the cholinesterase to levels

where the above symptoms of acute overexposure are observed.

Material name: Dylox® 420 SL Turf and Ornamental Insecticide

1811 Version #: 1.1 Revision date: Nov-09-2020 Issue date: Aug-07-2020

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed. This product contains an Organophosphate (OP) pesticide. Do not handle the patient without the following protective equipment in place: chemical resistant gloves and apron (preferably nitrile). Remove contaminated clothing and do not reuse without thorough cleaning with detergent and hot water. Dispose of heavily contaminated clothing, including shoes, as a hazardous waste. Do not wait for laboratory confirmation to treat patients with strong clinical evidence of poisoning. In the USA and other countries, contact your local or national poison control center for more information.

Establish airway and oxygenation. IV Atropine sulfate is the antidote of choice against parasympathetic nervous stimulation. If there are signs of parasympathetic stimulation, Atropine Sulfate should be injected at 10 minute intervals in doses of 1 to 2 milligrams until complete atropinization has occurred. Pralidoxime chloride (2-PAM chloride) may also be used as an effective antidote in addition to and while maintaining full atropinization. In adults, an initial dose of 1 gram of 2-PAM should be injected, preferably as an infusion, in 250 cc of saline over a 15 to 20 minute period. If this is not practical, 2-PAM may be administered slowly by intravenous injection as a 5% solution in water over not less than 2 minutes. After about an hour, a second dose of 1 gram of 2-PAM will be indicated if muscle weakness has not been relieved. For infants and children, the dose of 2-PAM is 0.25 grams. Avoid morphine, aminophylline, phenothiazine, reserpine, furosemide and ethacrynic acid. Clear chest by postural drainage. Oxygen administration may be necessary. Observe patient continuously for 48 hours. Repeated exposure to cholinesterase inhibitors may, without warning, cause prolonged susceptibility to very small doses of any cholinesterase inhibitor. Allow no further exposure until time for cholinesterase regeneration has been attained as determined by a blood test. Bathe and shampoo contaminated skin and hair. If ingested, empty stomach; activated charcoal is useful to further limit absorption. If victim is alert, Syrup of Ipecac (2 tablespoons in adults, 1 tablespoon in small children) is indicated. If symptoms such as loss of gag reflex, convulsions, or unconsciousness occur before emesis, gastric lavage should be considered following intubation with a cuffed endotracheal tube.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

This product contains a Cholinesterase Inhibitor. A physician should be contacted in all cases of exposure to this product.

5. Fire-fighting measures

Suitable extinguishing media Unsuitable extinguishing

media
Specific hazards arising from

the chemical

Special protective equipment and precautions for firefighters

Fire fighting equipment/instructions

Specific methods
General fire hazards

Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).

Do not use water jet as an extinguisher, as this will spread the fire.

The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Use standard firefighting procedures and consider the hazards of other involved materials.

Combustible liquid.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. 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.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Keep away from open flames, hot surfaces and sources of ignition. Do not taste or swallow. Avoid contact with eyes. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. ACGIH Threshold Limit Values

Components	Туре	Value	Form
Trichlorfon (CAS 52-68-6)	TWA	1 mg/m3	Inhalable fraction.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Wear appropriate chemical resistant gloves. Hand protection

Other Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure

limits (where applicable) or to an acceptable level (in countries where exposure limits have not

been established), an approved respirator must be worn.

Thermal hazards Not applicable.

General hygiene considerations

When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid. Liquid. **Form** Color Colorless Odor Characteristic. Odor threshold Not available.

ca. 2.3 @ 10% (20°C, deionized water)

Melting point/freezing point 24.8 °F (-4 °C) Initial boiling point and boiling

range

No data available

184 °F (84 °C) Flash point No data available **Evaporation rate** Flammability (solid, gas) Not applicable. Upper/lower flammability or explosive limits

Flammability limit - lower

Not available.

(%)

Flammability limit - upper

Not available.

Not available. Explosive limit - lower (%) Explosive limit - upper (%) Not available. Not available. Vapor pressure Not available. Vapor density Relative density Not available.

Solubility(ies)

Soluble Solubility (water)

No data available **Auto-ignition temperature** Not available. **Decomposition temperature** No data available **Viscosity**

Other information

ca. 1.18 g/cm3 (20°C) Density

Explosive properties Not explosive. Not applicable **Explosivity**

Flammability class Combustible IIIA estimated

Oxidizing properties Not oxidizing.

10. Stability and reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport. Reactivity

Chemical stability Material is stable under normal conditions. Hazardous polymerization does not occur. Possibility of hazardous

reactions Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Freezing

Incompatible materials Strong oxidizing agents.

Hazardous decomposition

products

No hazardous decomposition products are known. Emits hazardous fumes and smoke of unknown

composition when heated to decomposition or burned.

11. Toxicological information

Information on likely routes of exposure

Harmful by inhalation. Inhalation Slight skin irritant. Skin contact Causes eye irritation. Eve contact Ingestion Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics 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.

Repeated exposures to small doses of organophosphates may lower the cholinesterase to levels

where the above symptoms of acute overexposure are observed.

Information on toxicological effects

Harmful if inhaled. Harmful if swallowed. **Acute toxicity**

Product **Species Test Results**

Trichlorfon 420 SL

Acute **Dermal**

LD50 Rat > 2000 mg/kg

Inhalation

Mist

Rat LC50 > 2.05 mg/l, 4 h (Highest concentration -

No deaths)

Oral

LD50 Rat 1098 mg/kg (female)

Prolonged skin contact may cause temporary irritation. Skin corrosion/irritation

Serious eye damage/eye

irritation

Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization Not sensitizing. Germ cell mutagenicity Not available.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Trichlorfon (CAS 52-68-6) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not available. Specific target organ toxicity -Not classified.

single exposure

Specific target organ toxicity -

repeated exposure

Not classified.

Not an aspiration hazard. **Aspiration hazard**

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Components **Species Test Results**

Trichlorfon (CAS 52-68-6)

Aquatic

Crustacea EC50 Water flea (Daphnia magna) 0.0001 - 0.0002 mg/l, 48 hours Fish LC50 Cutthroat trout (Oncorhynchus clarki) 0.31 - 0.454 mg/l, 96 hours

Persistence and degradability Active ingredient is rapidly biodegradable.

Bioaccumulative potential Trichlorfon: Bioconcentration factor (BCF) 0.41; Does not bioaccumulate.

Partition coefficient n-octanol / water (log Kow)

0.51 Trichlorfon

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow **Disposal instructions**

this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches

with chemical or used container. Dispose of contents/container in accordance with

local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues / unused

products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

14. Transport information

DOT

UN number UN3082

Environmentally hazardous substances, liquid, n.o.s. (Trichlorfon RQ = 268 lbs - product), **UN proper shipping name**

MARINE POLLUTANT

Transport hazard class(es)

9 Class Subsidiary risk 9 Label(s) Packing group Ш **Environmental hazards**

> Yes Marine pollutant

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions 8, 146, 335, IB3, T4, TP1, TP29

Packaging exceptions Packaging non bulk 203 Packaging bulk 241

IATA

UN3082 **UN number**

UN proper shipping name Environmentally hazardous substances, liquid, n.o.s. (Trichlorfon Solution)

Transport hazard class(es)

Class 9 Subsidiary risk 9 Label(s) **Packing group** Ш **Environmental hazards** Yes

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN3082 **UN** number

UN proper shipping name Environmentally hazardous substances, liquid, n.o.s. (Trichlorfon Solution), MARINE

POLLUTANT

Transport hazard class(es)

9 Class Subsidiary risk 9 Label(s) Packing group Ш

Environmental hazards

Marine pollutant Yes

EmS Not available.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to

the IBC Code

Not established. Annex II of MARPOL 73/78 and

DOT; IATA; IMDG



9000

Marine pollutant



General information

IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant. Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

This product is not regulated when shipped by highway or rail in non-bulk packaging (maximum capacity of 121.5 kg (268 lb) or less). When shipped by air, vessel or in bulk packaging this product is regulated according to the data shown.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

This product is registered under EPA/FIFRA Regulations. 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.

This is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. A portion of the hazard information required on the pesticide label, including the EPA mandated signal word, is reproduced below. The pesticide label also includes other important information, including restrictions and directions for use.

HAZARD TO HUMANS AND DOMESTIC ANIMALS. CAUTION!

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Do not take internally. Avoid contact with eyes, skin, or clothing. Do not get in eyes or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and wildlife and is extremely toxic to aquatic invertebrates. Apply the product in strict accordance with label directions. For terrestrial uses, do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of wastes.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

2-(2-Methoxyethoxy)-ethanol (CAS 111-77-3) Listed. Trichlorfon (CAS 52-68-6) Listed.

SARA 304 Emergency release notification

Not regulated.

Material name: Dylox® 420 SL Turf and Ornamental Insecticide

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous Yes

chemical

Classified hazard Flammable (gases, aerosols, liquids, or solids)

Acute toxicity (any route of exposure) categories

Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.	
2-(2-Methoxyethoxy)-ethanol	111-77-3	62.7	
Trichlorfon	52-68-6	37.3	

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

2-(2-Methoxyethoxy)-ethanol (CAS 111-77-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

2-(2-Methoxyethoxy)-ethanol (CAS 111-77-3)

International Inventories

Country(s) or region On inventory (yes/no)* Inventory name

United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory Nο

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s) A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date Aug-07-2020 **Revision date** Nov-09-2020

References ACGIH®: American Conference of Governmental Industrial Hygienists

Comprehensive Environmental Response, Compensation, and Liability Act CERCLA:

EPA: Environmental Protection Agency

Federal Insecticide, Fungicide, and Rodenticide Act FIFRA:

IARC: International Agency for Research on Cancer

National Toxicology Program NTP:

Occupational Safety and Health Agency OSHA:

SARA: Superfund Amendments and Reauthorization Act

TSCA: Toxic Substances Control Act DOT: Department of Transportation

IMDG: International Maritime Dangerous Goods IATA: International Air Transport Association

Version # 1.1

HMIS® ratings Health: 2

> Flammability: 2 Physical hazard: 0

NFPA ratings Health: 2

Flammability: 2 Instability: 0

Material name: Dylox® 420 SL Turf and Ornamental Insecticide

SDS US 9/10

1811 Version #: 1.1 Revision date: Nov-09-2020 Issue date: Aug-07-2020

Disclaimer

This information is provided for the limited guidance to the user. While AMVAC 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.

AMVAC Chemical Corporation cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

©2020 AMVAC Chemical Corporation. AMVAC and the AMVAC Logo are trademarks owned by AMVAC Chemical Corporation. All Rights Reserved.

Dylox is a registered trademark of AMVAC Chemical Corporation.

ACGIH is a trademark of the American Conference of Governmental Industrial Hygienists.

CHEMTREC is a trademark of the American Chemistry Council, Inc.

HMIS is a trademark of the American Coatings Association.

NFPA is a trademark of the National Fire Protection Association, Inc.

Product and Company Identification: Product Registration Numbers Toxicological information: Acute toxicity

Transport Information: Material Transportation Information

Transport information: General information Regulatory information: US federal regulations

Other information, including date of preparation or last revision: Disclaimer

Revision information

SDS US

1811 Version #: 1.1 Revision date: Nov-09-2020 Issue date: Aug-07-2020