SAFETY DATA SHEET

DYLOX® 420 SL TURF AND ORNAMENTAL INSECTICIDE

Version 1.0 / USA
102000057394
Revision Date: 11/16/2020
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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name	DYLOX® 420 SL TURF AND ORNAMENTAL INSECTICIDE
Product code (UVP)	87357449
SDS Number	102000057394
EPA Registration No.	5481-643-432

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

Use	Insecticide
Restrictions on use	See product label for restrictions.

Information on supplier

Supplier	Bayer Environmental Science A division of Bayer CropScience LP 5000 Centregreen Way, Suite 400 Cary, NC 27513 USA
Responsible Department	Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-334-7577
Product Information Telephone Number	1-800-331-2867

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Reproductive toxicity: Category 2
Eye irritation: Category 2B
Acute toxicity(Oral, Inhalation): Category 4
Flammable liquids: Category 4

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Warning

Hazard statements
Suspected of damaging fertility or the unborn child.
Causes eye irritation.
Harmful if swallowed or if inhaled.
Combustible liquid.

Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash thoroughly after handling.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Do not eat, drink or smoke when using this product.
Avoid breathing mist/ spray.
Use only outdoors or in a well-ventilated area.
Keep away from open flames/hot surfaces. - No smoking.
IF exposed or concerned: Get medical advice/ attention.
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/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/physician if you feel unwell.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local regulation.

Hazards Not Otherwise Classified (HNOC)
This product contains an cholinesterase inhibitor.
No physical hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Trichlorfon	52-68-6	37.3
2-(2-Methoxyethoxy)ethanol	111-77-3	62.7

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice

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

Inhalation, dermal absorption or ingestion of this product may result in systemic intoxication due to inhibition of the enzyme cholinesterase. Symptoms of poisoning may appear several hours later.

Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Call a physician or poison control center immediately.
Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms	This product causes reversible cholinesterase inhibition without long term effects., Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced symptoms. The symptoms of cholinesterase inhibition include: Nausea, Salivation, Lachrymation, Blurred vision, Constriction of pupils

Indication of any immediate medical attention and special treatment needed

Risks	This product contains an anticholinesterase compound. Do not use if under medical advice not to work with such compounds.
Treatment	The following antidotes are generally accepted: atropin and oximes.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable	Carbon dioxide (CO2), Dry chemical, Foam, Water spray
Unsuitable	High volume water jet
Special hazards arising from the substance or mixture	Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Special protective equipment for firefighters	In the event of fire and/or explosion do not breathe fumes. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information	Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Whenever possible, contain fire-fighting water by diking area with sand or earth.
Flash point	84.4 °C
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions	Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional advice	Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.
Reference to other sections	Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.
Advice on protection against fire and explosion	Keep away from heat and sources of ignition.
Hygiene measures	Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Trichlorfon (Inhalable fraction.)	52-68-6	1 mg/m3 (TWA)	02 2012	ACGIH
Trichlorfon	52-68-6	0.28 mg/m3 (SK-SEN)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection Chemical resistant nitrile rubber gloves

Eye protection Tightly fitting safety goggles

Skin and body protection Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.
Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Form Liquid, clear

Colour colourless

Odour characteristic

Odour Threshold No data available

pH ca. 2.3 (10 %) (20 °C) (deionized water)

Melting point/freezing point	-4 °C
Boiling Point	No data available
Flash point	84.4 °C
Flammability	No data available
Auto-ignition temperature	No data available
Minimum ignition energy	No data available
Self-accelarating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available
Density	1.13 - 1.20 g/cm³ (20 °C)
Water solubility	soluble
Partition coefficient: n-octanol/water	Trichlorfon: log Pow: 0.43
Viscosity, dynamic	No data available
Viscosity, kinematic	No data available
Oxidizing properties	No data available
Explosivity	No data available

SECTION 10: STABILITY AND REACTIVITY

Reactivity	
Thermal decomposition	Stable under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.

Conditions to avoid	Heat, flames and sparks. Extremes of temperature and direct sunlight.
Incompatible materials	Strong oxidizing agents, Bases
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Ingestion, Inhalation
Immediate Effects	
Eye	Moderate eye irritation.
Skin	May cause slight irritation. Harmful if absorbed through skin.
Ingestion	Harmful if swallowed.
Inhalation	May be harmful if inhaled.
Information on toxicological effects	
Acute oral toxicity	LD50 (female Rat) 1,098 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 2.05 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. highest concentration tested No deaths
Acute dermal toxicity	LD50 (Rat) > 2,000 mg/kg
Skin corrosion/irritation	slight irritation (Rabbit)
Serious eye damage/eye irritation	Moderate eye irritation. (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Guinea pig)

Assessment STOT Specific target organ toxicity – single exposure

Trichlorfon: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Trichlorfon did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Trichlorfon was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Trichlorfon was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

Trichlorfon	52-68-6	Group A4

NTP

None.

IARC

Trichlorfon	52-68-6	Overall evaluation: 3

OSHA

None.

Assessment toxicity to reproduction

Trichlorfon is not considered a reproductive toxicant at non-maternally toxic dose levels.

Assessment developmental toxicity

Trichlorfon did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Leuciscus idus (Golden orfe)) 0.52 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient trichlorfon.
	LC50 (Oncorhynchus mykiss (rainbow trout)) 0.7 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient trichlorfon.
Toxicity to aquatic invertebrates	LC50 (Daphnia magna (Water flea)) 0.00096 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient trichlorfon.
Toxicity to aquatic plants	EC50 (Desmodesmus subspicatus (green algae)) 347 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient trichlorfon.
Biodegradability	Trichlorfon: rapidly biodegradable
Koc	Trichlorfon: Koc: 0
Bioaccumulation	Trichlorfon: Bioconcentration factor (BCF) 0.41 Does not bioaccumulate.
Mobility in soil	Trichlorfon: Highly mobile in soils

Results of PBT and vPvB assessment

PBT and vPvB assessment	Trichlorfon: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Environmental precautions	Apply this product as specified on the label. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply when weather conditions favor runoff or drift. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Dispose of unused product by incineration at a licensed incineration plant, in accordance with all applicable national and local regulations.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Follow advice on product label and/or leaflet.
RCRA Information	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR

UN number	**3082**
Class	9
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (TRICHLORFON)
RQ	Reportable Quantity is reached with 268 lb of product.

IMDG

UN number	**3082**
Class	9

Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRICHLORFON SOLUTION)

IATA

UN number	**3082**
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRICHLORFON SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 5481-643-432
US Federal Regulations
TSCA list
2-(2-Methoxyethoxy)ethanol 111-77-3
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No export notification needs to be made.
SARA Title III - Section 302 - Notification and Information
Not applicable.
SARA Title III - Section 313 - Toxic Chemical Release Reporting
Yes
Yes

US States Regulatory Reporting
CA Prop65
This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

Trichlorfon	52-68-6	CA, CT, IL, NJ
2-(2-Methoxyethoxy)ethanol	111-77-3	CT, IL, NJ

Environmental
CERCLA
Yes
Trichlorfon 52-68-6

Listed
Yes
2-(2-Methoxyethoxy)ethanol 111-77-3
Listed
Clean Water Section 307(a)(1)
None.
Safe Drinking Water Act Maximum Contaminant Levels
None.

EPA/FIFRA Information:
This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Harmful if swallowed or absorbed through skin.
Causes moderate eye irritation.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

<** Phrase does not exist: ZCUST - X11.00000645 **>	<** Phrase does not exist: ZCUST - X11.00000645 **>
49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 2	Flammability - 2	Instability - 0	Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 2	Flammability - 2	Physical Hazard - 0	PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: New Safety Data Sheet.

Revision Date: 11/16/2020

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