



SAFETY DATA SHEET

according to 29 CFR 1910.1200 and GHS

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TurboCide® Advanced Fogging Products VAP-20™

Revision 3
Revision date 2023-02-13

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	TurboCide® Advanced Fogging Products VAP-20™
Product code	0714510
Registration No.	47000-71.

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

Description	Restricted Use Pesticide: For retail sale 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.
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1.3. Details of the supplier of the safety data sheet

Company	Neogen Corporation
Address	620 Leshar Place Lansing MI 48912 USA
Web	www.neogen.com
Telephone	517-372-9200/800-234-5333
Email	SDS@neogen.com

1.4. Emergency telephone number

	24 hours: Medical: 1-800-498-5743 (U.S. and Canada) or 1-651-523-0318 (international) Spill/CHEMTREC: 1-800-424-9300 (U.S. and Canada) or 1-703-527-3887 (international)
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Further information

	Manufactured By: Chem-Tech Ltd. 1006 Business Highway 5 Pleasantville, IA 50225 U.S.A. Chem-Tech Ltd. is a wholly-owned subsidiary of Neogen Corporation.
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture


2.1.2. Classification - GHS	Compressed gas: H280; Acute Tox. 4: H302; Acute Tox. 3: H311; Skin Sens. 1: H317; Aquatic Acute 1: H400;
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2.2. Label elements

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2.2. Label elements

Hazard pictograms	
Signal Word	Danger
Hazard Statement	Compressed gas: H280 - Contains gas under pressure; may explode if heated. Acute Tox. 4: H302 - Harmful if swallowed. Acute Tox. 3: H311 - Toxic in contact with skin. Skin Sens. 1: H317 - May cause an allergic skin reaction. Aquatic Acute 1: H400 - Very toxic to aquatic life.
Precautionary Statement: Prevention	P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P272 - Contaminated work clothing should not be allowed out of the workplace. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary Statement: Response	P301+P312 - IF SWALLOWED: Call a POISON CENTER/doctor/ /if you feel unwell. P302+P352 - IF ON SKIN: Wash with plenty of water/ . P330 - Rinse mouth. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
Precautionary Statement: Storage	P410+P403 - Protect from sunlight. Store in a well-ventilated place.
Precautionary Statement: Disposal	P501 - Dispose of contents/container to the Manufacturer. Follow label instructions.

2.3. Other hazards

Other hazards	Simple asphyxiant: May displace oxygen and cause rapid suffocation. Contains gas under pressure; may explode if heated. May cause frostbite.
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SECTION 3: Composition/information on ingredients

3.2. Mixtures

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification
Carbon dioxide		124-38-9	204-696-9		70 - 80%	Compressed gas: H280;
Dichlorvos (ISO) (Dichlorvos (DDVP))	015-019-00-X	62-73-7	200-547-7		20%	Acute Tox. 2: H330; Acute Tox. 3: H311; Acute Tox. 3: H301; Skin Sens. 1: H317; Aquatic Acute 1: H400;

Description

	Concentrations listed are not product specifications.
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Further information

	Full text of Hazard Statements listed in this Section is provided in Section 16.
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SECTION 4: First aid measures

4.1. Description of first aid measures

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4.1. Description of first aid measures

Inhalation	Move the exposed person to fresh air. If breathing is difficult give oxygen. If breathing stops, provide artificial respiration. Seek medical attention if irritation or symptoms persist.
Eye contact	Rinse immediately with plenty of water. Contact lenses should be removed. Seek medical attention if irritation or symptoms persist.
Skin contact	Remove contaminated clothing. Wash with soap and water. Seek medical attention if irritation or symptoms persist. For frostbite, Thaw frosted parts with lukewarm water. Do not rub affected area.
Ingestion	Do not induce vomiting unless told to do so by the poison control center or doctor. Rinse mouth thoroughly. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

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

Inhalation	May cause dizziness and headache. May cause irritation to respiratory system.
Eye contact	May cause irritation to eyes.
Skin contact	May cause irritation to skin. Contact with the liquid may cause frostbite.
Ingestion	Toxic in contact with skin and if swallowed. Ingestion may cause nausea and vomiting.

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

	Remove the affected person from the source of contamination immediately. Transfer to hospital if there are burns or symptoms of poisoning. Seek medical attention if irritation or symptoms persist. If medical advice is needed, have product container or label at hand.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

	Use extinguishing media appropriate to the surrounding fire conditions.
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5.2. Special hazards arising from the substance or mixture

	Contains gas under pressure; may explode if heated.
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5.3. Advice for firefighters

	Compressed gas. Move containers away from fire if it can be done without risk. Cool fire exposed containers with waterspray. Fire will produce dense black smoke. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

	Evacuate the area immediately. Immediately contact emergency response personnel. Prevent further spillage if safe. In the event of a liquid spill, wear chemical protective equipment suitable for extremely low temperatures.
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6.2. Environmental precautions

	Advise local authorities if large spills cannot be contained. Do not flush into surface water. Do not let product contaminate subsoil.
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6.3. Methods and material for containment and cleaning up

	Prevent further spillage if safe. Immediately contact emergency response personnel. Absorb spillage to prevent material damage. Clean spillage area thoroughly with plenty of water. Do not contaminate water by cleaning of equipment or disposal of wastes.
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6.4. Reference to other sections

	See Section(s) 2, 8, and 13 for further information.
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SECTION 7: Handling and storage

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7.1. Precautions for safe handling

	Adopt best Manual Handling considerations when handling, carrying and dispensing. Avoid contact with eyes. Keep away from sources of ignition - No smoking. Do not eat, drink or smoke in areas where this product is used or stored. Ensure adequate ventilation of the working area. Do not contaminate water by cleaning of equipment or disposal of wastes. Read the entire label and follow all use directions, restrictions, and precautions. Use as appropriate: Protective clothing.
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7.2. Conditions for safe storage, including any incompatibilities

	Store in correctly labelled containers. Protect containers from damage. Do not contaminate water, food, or feed by storage or disposal. Keep at temperature not exceeding 54°C. Keep away from sources of ignition - No smoking. Follow label instructions.
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7.3. Specific end use(s)

	See Section(s) 1.2 for further information.
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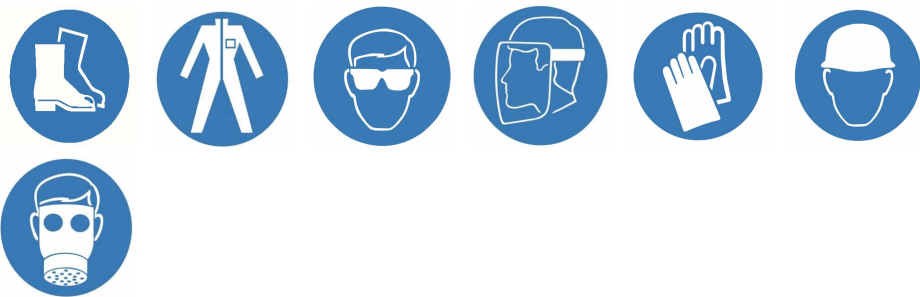
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limit Values

Carbon dioxide	<p>ACGIH TLV TWA: 5000 ppm</p> <p>Notations: -</p> <p>OSHA PEL 8hr TWA mg m3: 9000</p> <p>NIOSH REL 10hr TWA ppm:</p> <p>NIOSH REL 15 min ST ppm:</p>	<p>ACGIH TLV STEL: 30000 ppm</p> <p>OSHA PEL 8hr TWA ppm: 5000</p> <p>Skin Designation: -</p> <p>NIOSH REL 10hr TWA mg m3:</p> <p>NIOSH REL 15 min ST mg m3:</p>
Dichlorvos (ISO) (Dichlorvos (DDVP))	<p>ACGIH TLV TWA: 0.1 mg/m³ (IFV)</p> <p>Notations: Skin; SEN; A4; BEI A</p> <p>OSHA PEL 8hr TWA mg m3: 1</p> <p>NIOSH REL 10hr TWA ppm:</p> <p>NIOSH REL 15 min ST ppm:</p>	<p>ACGIH TLV STEL: -</p> <p>OSHA PEL 8hr TWA ppm: -</p> <p>Skin Designation: X</p> <p>NIOSH REL 10hr TWA mg m3:</p> <p>NIOSH REL 15 min ST mg m3:</p>

8.2. Exposure controls

	
Appropriate engineering controls	Ensure adequate ventilation of the working area.
Individual protection measures	Use as appropriate: Protective equipment.
Eye / face protection	Use as appropriate: Suitable eye protection.
Skin protection - Hand protection	Use as appropriate: Chemical-resistant gloves made of any waterproof material.
Skin protection - Other	Use as appropriate: Protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.

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8.2. Exposure controls

Occupational exposure controls	Exposure above the recommended occupational exposure limit (OEL) may cause adverse health effects. Protect clothing from contact with the product. Provide chemical shower. Provide eye wash station.
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Further information

	Refer to product label for additional PPE requirements and recommendations. Follow label instructions. Refer to product label for additional PPE requirements and recommendations. Follow label instructions.
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State	Compressed gas/Liquid
Color	Clear
Odor	Characteristic
Odor threshold	No data available
pH	No data available
Melting point	-109.3 °C
Boiling point	-78.464 °C
Flash point	No data available
Flammability limits	No data available
Vapor pressure	No data available
Vapor density	1.53 g/cm ³
Relative density	0.914
Partition coefficient	0.83 log P
Autoignition temperature	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Solubility	Soluble in water

9.2. Other information

Gas group	No data available
VOC (Volatile organic compounds)	No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

	Stable under normal conditions.
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10.2. Chemical stability

	Stable under normal conditions.
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10.3. Possibility of hazardous reactions

	Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.
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10.4. Conditions to avoid

	Heat will increase pressure in sealed containers.
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10.5. Incompatible materials

	No data available.
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10.6. Hazardous decomposition products

Carbon oxides. Hydrocarbons.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Harmful if swallowed. Toxic in contact with skin.
Skin corrosion/irritation	May cause irritation to skin.
Serious eye damage/irritation	May cause irritation to eyes.
Respiratory or skin sensitization	May cause sensitization by skin contact. May cause allergic reactions in susceptible people.
Germ cell mutagenicity	No mutagenic effects reported.
Carcinogenicity	No components at >0.01% are listed in the American Conference of Governmental Industrial Hygienists (ACGIH) Guide to Occupational Exposure Values. Listed by the International Agency for Research on Cancer (IARC) as a Group 2 substance: suspected of being a human carcinogen. No components at >0.01% are listed in the National Toxicology Program (NTP) Report on Carcinogens. Not listed in the OSHA standard 1910.1003 Carcinogens.
Reproductive toxicity	No teratogenic effects reported.
STOT-single exposure	May cause frostbite if tissue is exposed to liquid.
STOT-repeated exposure	No Significant Hazard.
Aspiration hazard	No Significant Hazard.
Repeated or prolonged exposure	Avoid prolonged or repeated exposure. Exposure above the recommended occupational exposure limit (OEL) may cause adverse health effects. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible.

11.1.4. Toxicological information

Dichlorvos (ISO)	Dermal Rat LD50: 107 male/75 female	Oral Rat LD50: 80 male/56 female
	Inhalation Rat LC50/4 h: 199	

11.1.5. Hazard Class

See Section(s) 2 and 14 for further information.

11.1.6. Classification Criteria

Based on the Globally Harmonized System (GHS) considerations for the classification of mixtures. See Section 15 for regulatory citations. See section 15 for further information.

11.1.7. Information on likely routes of exposure

Skin contact. Eye contact. Inhalation. Ingestion.

11.1.8. Symptoms related to the physical, chemical and toxicological characteristics

See Section(s) 4.2 for further information.

11.1.9. Delayed and immediate effects as well as chronic effects from short and long-term exposure

See Section(s) 4.2 for further information.

11.1.10. Interactive effects

No data available.

11.1.11. Absence of specific data

<1% of this mixture consists of ingredients of unknown acute toxicity.

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11.1.12. Mixture versus substance information

See Section(s) 3 for further information.

11.1.13. Other information

No data available.

SECTION 12: Ecological information

12.2. Persistence and degradability

No data is available on this product.

12.3. Bioaccumulative potential

No data is available on this product.

Partition coefficient

TurboCide® Advanced Fogging Products VAP-20™ 0.83 log P

Dichlorvos (ISO) 3.84 log P

12.4. Mobility in soil

No data is available on this product.

12.5. Results of PBT and vPvB assessment

No data is available on this product.

SECTION 13: Disposal considerations

General information

Pesticide that cannot be used according to label instructions must be returned to the point of purchase in its original container.

Disposal of packaging

This cylinder must not be disposed of in any manner. Cylinders must be returned to point of purchase for credit. All cylinders, valves, and caps remain the property of the manufacturer. Federal regulations prohibit the refilling of cylinders without written consent of the manufacturer.

SECTION 14: Transport information

Hazard pictograms



14.1. UN number

UN1955

14.2. UN proper shipping name

COMPRESSED GAS, TOXIC, N.O.S. (Carbon dioxide, Dichlorvos)

14.3. Transport hazard class(es)

DOT	2
Subsidiary risk	-
IMDG	2.3

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14.3. Transport hazard class(es)

Subsidiary risk	-
IATA	2.3
Subsidiary risk	-

14.4. Packing group

Packing group	-
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14.5. Environmental hazards

Environmental hazards	No
Marine pollutant	No

DOT

Hazard ID	26
Tunnel Category	(C/D)

IMDG

EmS Code	F-C S-U
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IATA

Packing Instruction (Cargo)	FORBIDDEN
Maximum quantity	FORBIDDEN
Packing Instruction (Passenger)	FORBIDDEN
Maximum quantity	FORBIDDEN

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulations	Hazard Communication Standard: 29 Code of Federal Regulations 1910.1200: Occupational Safety and Health Standards: Z: Toxic and Hazardous Substances: Hazard Communication.
Chemical Inventories/Right-to-Know Lists:	Toxic Substances Control Act (TSCA): All ingredients listed or exempt. Massachusetts Right-to-Know Hazardous Substance List: Dichlorvos. New Jersey Worker and Community Right to Know Act: Carbon dioxide; Dichlorvos. Pennsylvania Right to Know Law: Carbon dioxide; Phosphoric acid, 2,2-dichloroethenyl dimethyl ester (DDVP). Rhode Island Right-to-Know General Law: Carbon dioxide (any form); Dichlorvos (skin). **California residents please note**. WARNING: This product can expose you to chemicals, including dichlorvos, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov .

Inventories

Ingredient	TSCA	MA	SARA313	CALPROP65	CWA307	CAA112	CWA311	SARA302	SARA304
Carbon dioxide	Y	N	N	N	N	N	N	N	N
Dichlorvos (ISO) (Phosphoric acid, 2,2-dichloroethenyl dimethyl ester)	Y	Y	Y 0.1	Y	N	Y	Y	Y 1,000	Y 10

Further information

	This chemical 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
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Further information

FIFRA Signal Word FIFRA Warning	required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.
	DANGER.
	Restricted Use Pesticide: For retail sale 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. Keep out of reach of children. Hazards to humans and domestic animals. Corrosive. Causes irreversible eye damage. May be fatal if absorbed through the skin. Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Do not get in eyes, on skin, or on clothing.

SECTION 16: Other information

Other information

Revision	This document differs from the previous version in the following areas: 1 - Product Use. 1 - Manufactured By: 1 - Registration No. 2 - Hazard pictograms. 4 - Ingestion. 11 - Repeated or prolonged exposure. 11 - Carcinogenicity. 11 - 11.1.5. Hazard Class. 11 - 11.1.6. Classification Criteria. 11 - 11.1.7. Information on likely routes of exposure. 11 - 11.1.8. Symptoms related to the physical, chemical and toxicological characteristics. 11 - 11.1.9. Delayed and immediate effects as well as chronic effects from short and long-term exposure. 11 - 11.1.10. Interactive effects. 11 - 11.1.11. Absence of specific data. 11 - 11.1.12. Mixture versus substance information. 11 - 11.1.13. Other information. 16 - Acronyms.
Acronyms	ADR/RID: European Agreements Concerning the International Carriage of Dangerous Goods by Rail (RID) and by Road (ADR). CAS No.: Chemical Abstracts Service. GHS: Globally Harmonized System. HCS 2012: Hazard Communication Standard (2012 revision). IATA: International Air Transport Association. ICAO: International Civil Aviation Organization. IMDG: International Maritime Dangerous Goods. LD: Lethal dose. OEL: Occupational exposure limit. OSHA: U.S. Occupational Safety and Health Administration. PEL: Permissible Exposure Limit. REACH: Registration, Evaluation, Authorization, and Restriction of Chemicals. STOT: Specific Target Organ Toxicity. SVHC: Substance of very high concern. US DOT: United States Department of Transportation. VOC: Volatile Organic Compound. WEL: Workplace Exposure Limit.

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Other information

Text of Hazard Statements in Section 3	<p>Compressed gas: H280 - Contains gas under pressure; may explode if heated.</p> <p>Acute Tox. 3: H301 - Toxic if swallowed.</p> <p>Acute Tox. 3: H311 - Toxic in contact with skin.</p> <p>Skin Sens. 1: H317 - May cause an allergic skin reaction.</p> <p>Acute Tox. 2: H330 - Fatal if inhaled.</p> <p>Aquatic Acute 1: H400 - Very toxic to aquatic life.</p>
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Further information

	<p>DISCLAIMER: The information and recommendations set forth herein ("Information") are presented in good faith and believed to be correct as of the date issued. No representation is made regarding the completeness or accuracy of the Information. Further, because of the many factors that affect the use of this product, the Information is supplied upon the condition that the person(s) receiving it will make their own determination regarding its suitability for their own unique purpose(s), prior to use.</p> <p>Except as expressly stated herein, NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF PERFORMANCE, USAGE OF TRADE, OR RESULTS TO BE OBTAINED BY USE OF THIS PRODUCT are made with respect to this product or use of this product. The product covered is furnished "as is" and only subject to the warranties herein provided, no liability is assumed resulting from the use of this product.</p>
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