

**SAFETY DATA SHEET**  
Cygon 480

SDS #: FO002049-A  
Revision date: 2021-07-15  
Format: NA  
Version 1.07



**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier**

**Product Name** Cygon 480

**Other means of identification**

**Product Code(s)** FO002049-A

**Synonyms** DIMETHOATE: O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] phosphorodithioate (CAS name); 2-dimethoxyphosphinothioylthio-N-methylacetamide (IUPAC name)

**Active Ingredient(s)** Dimethoate

**Chemical Family** Organophosphate

**Alternate Commercial Name** Cygon 480-AG, Cygon 480-ORN  
**PCP #** 8277, 25651, 25650

**Recommended use of the chemical and restrictions on use**

**Recommended Use:** Insecticide

**Restrictions on Use:** Use as recommended by the label.

**Supplier Address**

FMC of Canada Limited  
6755 Mississauga Road, Suite 204  
Mississauga, ON L5N 7Y2  
Canada  
Web: <https://ag.fmc.com/ca/en>  
Phone (AgHotline): 1-833-FMC-PPAC (1-833-362-7722)  
Email: SDS-Info@fmc.com

**Emergency telephone number**

Medical Emergencies :  
1 800 / 331-3148 (U.S.A. & Canada)  
1 651 / 632-6793 (All Other Countries - Collect)

For leak, fire, spill or accident emergencies, call:  
1 800 / 424-9300 (CHEMTREC - U.S.A.)  
1 703 / 741-5970 (CHEMTREC - International)  
1 703 / 527-3887 (CHEMTREC - Alternate)

**2. HAZARDS IDENTIFICATION**

**Classification**

**OSHA Regulatory Status**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral

Category 4


Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2A
Flammable liquids	Category 3

**GHS Label elements, including precautionary statements**

**EMERGENCY OVERVIEW**

**Warning**

**Hazard Statements**  
 H302 - Harmful if swallowed  
 H332 - Harmful if inhaled  
 H319 - Causes serious eye irritation  
 H226 - Flammable liquid and vapor  
 H401 - Toxic to aquatic life  
 H411 - Toxic to aquatic life with long lasting effects



**Precautionary Statements - Prevention**

- P264 - Wash hands thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
- P271 - Use only outdoors or in a well-ventilated area
- P280 - Wear eye protection/ face protection
- P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P233 - Keep container tightly closed
- P242 - Use only non-sparking tools
- P243 - Take precautionary measures against static discharge
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P273 - Avoid release to the environment

**Precautionary Statements - Response**

- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 - Immediately call a POISON CENTER or doctor
- P312 - Call a POISON CENTER or doctor if you feel unwell
- P332 + P313 - If skin irritation occurs: Get medical advice/attention
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
- P363 - Wash contaminated clothing before reuse
- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P310 - Immediately call a POISON CENTER or doctor
- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
- P330 - Rinse mouth
- P391 - Collect spillage

**Precautionary Statements - Storage**

- P405 - Store locked up
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

- P501 - Dispose of contents/container according to label directions

**Hazards not otherwise classified (HNOC)**

No hazards not otherwise classified were identified.

#### Other Information

Harmful to aquatic life.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical Family** Organophosphate.

Chemical name	CAS-No	Weight %
Dimethoate	60-51-5	30-60
Cyclohexanone	108-94-1	15-30

Synonyms are provided in Section 1.

### 4. FIRST AID MEASURES

<b>Eye Contact</b>	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
<b>Skin Contact</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
<b>Inhalation</b>	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 poison control center or doctor for further treatment advice.
<b>Ingestion</b>	Immediately call a poison control center or doctor Do not induce vomiting unless advised by a physician or qualified medical advisor. Do not give anything by mouth to an unconscious person. Transport to a clinic or hospital immediately
<b>Most important symptoms and effects, both acute and delayed</b>	<p>Inhalation: Dimethoate is a dangerous poison through inhalation. This material can cause organophosphorous poisoning. Symptoms of poisoning may include headache, nausea, vomiting, blurred vision, tightness in chest, drooling and frothing of mouth and nose, pulmonary edema (fluid accumulation), cyanosis (bluish discoloration of skin) convulsions, coma and death.</p> <p>Skin contact: Direct skin contact may cause moderate to severe irritation. Dimethoate can be rapidly absorbed through all skin surfaces and cause symptoms similar to those listed for inhalation.</p> <p>Eye contact: Direct eye contact may cause severe irritation. Dimethoate can be rapidly absorbed through all skin and eye surfaces and cause symptoms similar to those listed for inhalation.</p> <p>Ingestion: Dimethoate is a dangerous poison through ingestion. Causes symptoms similar to those listed for inhalation. This product may present an aspiration hazard. Aspiration into the lungs can cause life threatening lung injury.</p>
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	This product contains a cholinesterase inhibitor affecting the central and peripheral nervous systems and producing respiratory depression. Decontamination procedures such as whole body washing, gastric lavage and administration of activated charcoal are often required. If symptoms are present, administer atropine sulphate in large doses. Two to four mg intravenously or intramuscularly, as soon as possible. Repeat at 5 to 10 minute intervals until signs of atropinization appear. Maintain full atropinization until all organophosphate is metabolized. Obidoxime chloride (Toxogonin), alternatively pralidoxime chloride (2-PAM), may be administered as an adjunct to, but not a substitute for atropine, which is a symptomatic and often life-saving antidote. Treatment with oxime should be maintained as long as atropine sulphate is administered. At first sign of pulmonary edema, the patient should be given supplemental oxygen and treated symptomatically. Continued absorption

may occur and relapse may occur after initial improvement. VERY CLOSE SUPERVISION OF THE PATIENT IS INDICATED FOR AT LEAST 48 HOURS, DEPENDING ON THE SEVERITY OF POISONING.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Small Fire</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ).
<b>Large Fire</b>	Water spray. Foam.
<b>Unsuitable extinguishing media</b>	Avoid heavy hose streams.
<b>Specific Hazards Arising from the Chemical</b>	Flammable liquid and vapor. This material will ignite when exposed to heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment). Material may decompose rapidly when exposed to heat and flame. Heat of decomposition may cause closed containers to build up pressure and explode.
<b>Hazardous Combustion Products</b>	Nitrogen oxides (NO <sub>x</sub> ), Carbon oxides; Oxides of phosphorus; oxides of sulfur; dimethyl sulfide; irritating fumes and smoke.
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	Not sensitive.
<b>Sensitivity to Static Discharge</b>	Not expected to be sensitive to static discharge.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Dike to prevent runoff. Use water spray to cool fire exposed surfaces and protect personnel. Move containers from fire area if you can do it without risk.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
<b>Other</b>	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
<b>Environmental Precautions</b>	Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains. Toxic to aquatic life.
<b>Methods for Containment</b>	Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Contain and absorb spilled material with inert, non-combustible absorbent material, such as sand. Sweep up and shovel into suitable containers for disposal. For a water spill, confine the spill immediately with booms. Large spills that soak into the ground should be dug up, placed into suitable containers and disposed of appropriately (see Section 13). Notify the appropriate authorities as required.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

<b>Handling</b>	This material is a toxic liquid. Wear chemically resistant protective equipment during handling. Use only in well-ventilated areas. Avoid contact with eyes, skin and clothing. Do not breathe vapors or spray mist. Keep away from children and all unprotected persons. Do not use near sources of heat, flame or direct sunlight. Dimethoate should never be heated above 35°C. Heat only indirectly and with solvent present. Local heating with, for example, electric heating equipment or steam, may significantly increase the risk of explosion and should never take place. Keep away from incompatibles. Use caution when opening cap. Keep containers tightly closed when not in use. Wash thoroughly after handling.
<b>Storage</b>	Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other

chemicals. Store at less than 25 °C, in tightly closed containers. Keep out of direct sunlight. Store in dry environment away from heat and sources of ignition, i.e., steam pipes, radiant heaters, hot air vents or welding sparks. Do not store with strong smelling materials. Containers should be visually inspected on a regular basis to detect any abnormalities (swollen drums, increases in temperature, etc.).

**Packaging material** Must only be kept in original packaging.

**Incompatible products** Strong oxidizing agents, Alkalis, Amines

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Cyclohexanone (108-94-1)	STEL: 50 ppm TWA: 20 ppm	TWA: 50 ppm TWA: 200 mg/m <sup>3</sup>	IDLH: 700 ppm TWA: 25 ppm TWA: 100 mg/m <sup>3</sup>	Mexico: TWA 20 ppm Mexico: STEL 50 ppm
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Cyclohexanone (108-94-1)	TWA: 20 ppm STEL: 50 ppm Skin	TWA: 25 ppm TWA: 100 mg/m <sup>3</sup> Skin	TWA: 20 ppm  STEL: 50 ppm Skin	TWA: 20 ppm TWA: 80 mg/m <sup>3</sup> STEL: 50 ppm STEL: 200 mg/m <sup>3</sup> Skin

Appropriate engineering controls

**Engineering measures** Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

**Eye/Face Protection** Tightly fitting safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

**Skin and Body Protection** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Hand Protection** Impervious gloves

**Respiratory Protection** Respiratory protection is required. Use only with adequate ventilation. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

**Hygiene measures** Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Must have clean water available for washing in case of eye or skin contamination. Wash skin before eating, drinking, chewing gum, or using snuff. Shower after work. Remove contaminated clothing and wash before reuse. Wash all work clothing separately; do not mix with household laundry. Persons working with this product for a longer period should have frequent blood tests for cholinesterase levels. If the cholinesterase levels fall below a critical point, no further exposure should be allowed until it has been determined, by means of blood tests, that cholinesterase levels have returned to normal.

**General information** If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

<b>Appearance</b>	Liquid suspension
<b>Physical State</b>	Liquid
<b>Color</b>	Colorless, Light yellow
<b>Odor</b>	Slight mercaptan
<b>Odor threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting point/freezing point</b>	< 5 °C / 41 °F
<b>Boiling Point/Range</b>	Decomposes @176F (80C)
<b>Flash point</b>	42 °C / 108 °F : (PMCC)
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Flammability Limit in Air</b>	
<b>Upper flammability limit:</b>	No information available
<b>Lower flammability limit:</b>	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available
<b>Specific gravity</b>	No information available
<b>Water solubility</b>	Emulsifies
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Viscosity, kinematic</b>	No information available
<b>Viscosity, dynamic</b>	5-10 cps @77F (25C)
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Molecular weight</b>	No information available
<b>Bulk density</b>	No information available

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Stable under recommended storage conditions
<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	It is strongly advised to heat product indirectly. Above 176oF / 80oC Dimethoate will decompose rapidly, significantly increasing the risk of inducing explosions. The decomposition is to a considerable extent dependant on time as well as temperature due to exothermic and autocatalytic reactions. The reactions involve rearrangements and polymerization, releasing volatile malodorous and inflammable compounds such as dimethylsulfide and methyl mercaptan.
<b>Conditions to avoid</b>	Heat, flames and sparks Extremes of temperature and direct sunlight
<b>Incompatible materials</b>	Strong oxidizing agents, Alkalies, Amines.
<b>Hazardous Decomposition Products</b>	Dimethyl sulphide, methyl mercaptan.

## 11. TOXICOLOGICAL INFORMATION

### Product Information

<b>LD50 Oral</b>	450 mg/kg (rat) (Based on a similar product)
<b>LD50 Dermal</b>	> 2000 mg/kg (rat) (Based on a similar product)
<b>LC50 Inhalation (dust)</b>	2.5 mg/L 4 hr (Similar product)
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Skin corrosion/irritation</b>	No information available.
<b>Sensitization</b>	None known

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation (vapor)
Dimethoate (60-51-5)	= 255 mg/kg ( Rat ) = 60 mg/kg ( Rat )	= 1 g/kg ( Rabbit )	> 0.9 mg/L ( Rat ) 4 h
Cyclohexanone (108-94-1)	1	1	1

**Information on toxicological effects**

**Symptoms**

Inhalation: Dimethoate is a dangerous poison through inhalation. This material can cause organophosphorous poisoning. Symptoms of poisoning may include headache, nausea, vomiting, blurred vision, tightness in chest, drooling and frothing of mouth and nose, pulmonary edema (fluid accumulation), cyanosis (bluish discoloration of skin) convulsions, coma and death.

Skin contact: Direct skin contact may cause moderate to severe irritation. Dimethoate can be rapidly absorbed through all skin surfaces and cause symptoms similar to those listed for inhalation.

Eye contact: Direct eye contact may cause severe irritation. Dimethoate can be rapidly absorbed through all skin and eye surfaces and cause symptoms similar to those listed for inhalation.

Ingestion: Dimethoate is a dangerous poison through ingestion. Causes symptoms similar to those listed for inhalation. This product may present an aspiration hazard. Aspiration into the lungs can cause life threatening lung injury.

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

<b>Mutagenicity</b>	Not expected to be mutagenic in humans
<b>Carcinogenicity</b>	Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH)
<b>Reproductive toxicity</b>	Not expected to have reproductive effects.
<b>Teratogenicity</b>	Not expected to be a teratogen.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Other Adverse Effects</b>	Repeated exposures to cholinesterase inhibitors, such as Dimethoate, may without warning cause increased susceptibility to doses of any cholinesterase inhibitor.
<b>Aspiration hazard</b>	This product presents an aspiration pneumonia hazard.

Chemical name	ACGIH	IARC	NTP	OSHA
Cyclohexanone 108-94-1	A3	Group 3		

**Legend:**

**ACGIH (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

**IARC (International Agency for Research on Cancer)**

Group 3 - Not classifiable as to its carcinogenicity to humans

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Persistence and degradability** Non-persistent, Product is biodegradable.

**Bioaccumulation** Bioaccumulation is unlikely.

**Mobility** Relatively immobile in soil.

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these

wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.

**Contaminated containers and packages**

Dispose of rinse water in accordance with local and national guidelines. Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

## 14. TRANSPORT INFORMATION

**DOT**

UN/ID no UN1993  
 Proper Shipping Name Flammable liquids, n.o.s. (cyclohexanone, dimethoate)  
 Hazard class 3  
 Packing Group III  
 Reportable Quantity (RQ) 10 lbs (Dimethoate)  
 Description UN 1993, Flammable liquid, n.o.s. (cyclohexanone, dimethoate), 3, III, RQ

**TDG**

UN/ID no UN1993  
 Proper Shipping Name Flammable liquid, n.o.s (cyclohexanone, dimethoate)  
 Hazard class 3  
 Packing Group III  
 Description UN 1993, Flammable liquid, n.o.s. (cyclohexanone, dimethoate), 3, III, RQ

**ICAO/IATA**

UN/ID no UN1993  
 Proper Shipping Name Flammable liquid, n.o.s (cyclohexanone, dimethoate)  
 Hazard class 3  
 Packing Group III  
 Description UN 1993, Flammable liquid, n.o.s. (cyclohexanone, dimethoate), 3, III, RQ

**IMDG/IMO**

UN/ID no UN1993  
 Proper Shipping Name Flammable liquid, n.o.s (cyclohexanone, dimethoate)  
 Hazard class 3  
 Packing Group III  
 EmS No. F-E, S-E  
 Description UN 1993, Flammable liquid, n.o.s. (cyclohexanone, dimethoate), 3, III, RQ

## 15. REGULATORY INFORMATION

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Dimethoate - 60-51-5	60-51-5	30-60	1.0

**SARA 311/312 Hazard Categories**

Acute health hazard Yes  
 Chronic health hazard Yes  
 Fire hazard Yes  
 Sudden release of pressure hazard No  
 Reactive Hazard No

**Clean Water Act**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic Anhydride 108-24-7	5000 lb			X

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Acetic Anhydride 108-24-7	5000 lb 2270 kg	
Cyclohexanone 108-94-1	5000 lb 2270 kg	
Dimethoate 60-51-5	10 lb 4.54 kg	10 lb

**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 as required on the pesticide label:

**WARNING**

- May be fatal if swallowed.
- Causes moderate eye irritation.
- Avoid contact with eyes or clothing.

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Dimethoate 60-51-5	X	X	X
Cyclohexanone 108-94-1	X	X	X

**International Inventories**

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINC S (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Dimethoate 60-51-5	X	X	X	X	X	X	X	X
Cyclohexanone 108-94-1	X	X	X	X	X	X	X	X

**CANADA**

