Section 1. Product and Company Identification

Product Name Dowicil 200
CAS Number Mixture

Parchem - fine & specialty chemicals
415 Huguenot Street
New Rochelle, NY 10801
(914) 654-6800 **(914) 654-6899**
parchem.com **info@parchem.com**

EMERGENCY RESPONSE NUMBER
CHEMTEL
Toll Free US & Canada: 1 (800) 255-3924
All other Origins: 1 (813) 248-0585
Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture
Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable solids: (Category 2), H228
Acute toxicity, Oral: (Category 4), H302
Skin irritation: (Category 2), H315
Skin sensitization: (Category 1), H317
Reproductive toxicity: (Category 2), H361
Acute aquatic toxicity: (Category 2), H401
Chronic aquatic toxicity: (Category 2), H41

GHS Label Elements

Pictograms:

Signal word: WARNING

Hazard and precautionary statements
Hazard statement(s)
H228: Flammable solid.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H361: Suspected of damaging fertility or the unborn child.
H411: Toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264: Wash skin 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.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362: Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391: Collect spillage.
P405: Store locked up.
P501: Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition / Information on Ingredients

Common Name Dowicil 200
CAS Number Mixture

COMPONENT	CAS NUMBER	CONCENTRATION
1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane-chloride (CTAC)	51229-78-8	96.0%
Cis-1,3-dichloropropene	10061-01-5	≤ 0.3%
Dichloromethane (methylene chloride)	75-09-2	≤ 0.5%

Section 4. First Aid Measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.
Skin contact: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Safety shower should be located in immediate work area.
Eye contact: Hold eyes 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 eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.
Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed below.
Indication of any immediate medical attention and special treatment needed Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

Section 5. Firefighting Measures

Suitable extinguishing media: Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers.
Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Ammonia. Amines.
Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Do not permit dust to accumulate. When suspended in air dust can pose an explosion hazard. Minimize ignition sources. If dust layers are exposed to elevated temperatures, spontaneous combustion may occur. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. If product

becomes contaminated with water, monitor product for heat generation and/or decomposition. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Dust explosion hazard may result from forceful application of fire extinguishing agents. Move container from fire area if this is possible without hazard.
Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Use appropriate safety equipment.
Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Spills or discharge to natural waterways is likely to kill aquatic organisms.
Methods and materials for containment and cleaning up: Contain spilled material if possible. Sweep up. Collect in suitable and properly labeled containers. Absorb with approx. 272.6 g NaHS03 (or 249 g Na2S205) for 100 g biocidal product.

Section 7. Handling and Storage

Precautions for safe handling: Keep out of reach of children. Keep away from heat, sparks and flame. Avoid contact with eyes, skin, and clothing. Do not swallow. Wash thoroughly after handling. No smoking, open flames or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Electrically ground and bond all equipment. Aqueous solutions containing this product can generate formaldehyde.
Conditions for safe storage: Protect from atmospheric moisture. Store in a dry place. Avoid moisture. Do not store in: Aluminum.

Storage stability
Shelf life: Use within 36 Month
Storage temperature: <= 49 oc (<= 120 °F)

Section 8. Exposure Controls / Personal Protection

Control Parameters
Cis-1,3-dichloropropene
Regulation: ACGIH, ACGIH, ACGIH
Type of Listing: TWA, TWA, TWA
Value/Notation: 1ppm, Absorbed in skin, 50 ppm

Dichloromethane (methylene chloride)
Regulation: ACGIH, OSHA Z-2, OSHA CARC, OSHA CARC, OSHA Z-1
Type of Listing: TWA, PEL, STEL
Value/Notation: BEI, 25 ppm, 125 ppm

Exposure Controls
Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures
Eye/face protection: Use chemical goggles.
Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.
Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, in dusty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Particulate filter.

Section 9. Physical and Chemical Properties

Appearance
Physical state: Powder
Color: Off-white
Odor: Amine.
Odor Threshold: No test data available
pH: 8. 2 Measured
Melting point/range: > 15°C (> 302 °F) EC Method A1 Decomposes
Freezing point: Not applicable
Boiling point (760 mmHg): Not applicable
Flash point: closed cup not applicable
Evaporation Rate (Butyl Acetate = 1): No test data available
Flammability (solid, gas): Flammable solid.

Lower explosion limit: Not applicable to solids
Upper explosion limit: Not applicable to solids
Vapor Pressure: at 25°C (77 °F) (0 .000000001 mmHg)
Relative Vapor Density (air = 1): Not applicable
Relative Density (water = 1): Not applicable
Water solubility: > 50 % at 10°C (50 °F)
Partition coefficient n-octanol/water: no data available
Auto-ignition temperature: 391°C (736°F)
Decomposition temperature: 192°C (378°F)
Dynamic Viscosity: Not applicable
Kinematic Viscosity: Not applicable
Explosive properties: Not explosive EEC A14
Oxidizing properties: No Assessment based on structural analysis
Bulk density: 0.41 g/cm^3 CIPAC MT 33
Molecular weight: 251.2 g/mol

Section 10. Stability and Reactivity

Reactivity: No dangerous reaction known under conditions of normal use.
Chemical stability: Stable under recommended storage conditions. Unstable at elevated temperatures.
Possibility of hazardous reactions: Polymerization will not occur.
Conditions to avoid: Avoid temperatures above 80oC (176°F) Active ingredient decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems. Avoid static discharge. Avoid moisture. Water contamination may cause heat generation and decomposition.
Incompatible materials: Avoid contact with oxidizing materials. Avoid contact with: Strong acids. Avoid contact with metals such as aluminum.
Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Chlorinated hydrocarbons. Carbon dioxide. Ammonia. Amines. Hydrogen chloride. Trimethylamine. Gases are released during decomposition.

Section 11. Toxicological Information

Acute toxicity
Acute oral toxicity: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. LD50, rat, 1,552 mg/kg
Acute dermal toxicity: Prolonged or widespread skin contact may result in absorption of harmful amounts. Anorexia and weight loss occurred in some rabbits used in dermal toxicity studies; internal lesions occurred in different organs, primarily gastrointestinal, but these lesions were inconsistently observed and had no dose response. The data presented are for the following material Solid. LD50, rabbit, 923 mg/kg the data presented are for the following material Strong solutions (50%). LD50, rabbit, 400- 2,831 mg/kg.

Acute inhalation toxicity: No adverse effects are anticipated from single exposure to dust. For respiratory irritation and narcotic effects: No relevant data found. LC50, rat, 4 Hour, dust/mist, > 5.2 mg/1 No deaths occurred at this concentration.
Skin corrosion/irritation: Prolonged contact may cause slight skin irritation with local redness. May cause more severe response if skin is damp. Serious eye damage/eye irritation May cause moderate eye irritation. Corneal injury is unlikely.
Sensitization: Not likely to be a skin sensitizer in dry powder form. May be a weak skin sensitizer in susceptible individuals at concentrations > 1% aqueous solution. Did not cause allergic skin reactions when tested in guinea pigs. For respiratory sensitization
No relevant data found.
Specific Target Organ Systemic Toxicity (Single Exposure): Evaluation of available data suggests that this material is not an STOT-SE toxicant.
Specific Target Organ Systemic Toxicity (Repeated Exposure): In animals, effects have been reported on the following organs after ingestion, Liver.

Carcinogenicity: 1,3-Dichloropropene has been shown to cause cancer in laboratory animals by the oral route. Inhalation exposure resulted in an increase in the normal occurrence of benign lung tumors in male mice. Methylene chloride has been shown to increase the incidence of malignant tumors in mice and benign tumors in rats. Other animal studies on methylene chloride alone, as well as several human epidemiology studies, failed to show a tumorigenic response. Methylene chloride is not believed to
pose a measurable carcinogenic risk to humans when handled as recommended.
Teratogenicity: CTAC has caused birth defects in rats administered relatively high oral doses; no defects were observed at lower doses. CT AC did not cause birth defects or any other effects on the fetus when relatively high doses were administered dermally, the most likely route of exposure.
Reproductive toxicity: No relevant data found.
Mutagenicity: In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were negative.
Aspiration Hazard: Based on physical properties, not likely to be an aspiration hazard.

Carcinogenicity
Cis-1,3-dichloropropene: List ACGIH; Classification A3: Confirmed animal carcinogen with unknown relevance to humans.

Dichloromethane (methylene chloride)
IARC: Group 2A: Probably carcinogenic to humans
US NTP: Reasonably anticipated to be a human carcinogen
OSHA CARC: OSHA specifically regulated carcinogen
ACGIH: A3: Confirmed animal carcinogen with unknown relevance to humans.

Section 12. Ecological Information

Toxicity
1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane-chloride (CTAC)
Acute toxicity to fish: Material is moderately toxic to aquatic organisms on an acute basis

(LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested). LC50, Lepomis macrochirus (Bluegill sunfish), flow-through test, 96 Hour, 66 mg/1
Acute toxicity to aquatic invertebrates: LC50, Daphnia magna (Water flea), 30.4 - 40 mg/1 EC50, Daphnia magna (Water flea), flow-through test, 48 Hour, 25.8 mg/1
Acute toxicity to algae/aquatic plants: EbC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Biomass, 1.5 mg/1
Toxicity to bacteria: EC50, activated sludge, 1,870 mg/1
Chronic toxicity to aquatic invertebrates: NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 19.8 mg/1; LOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 27.5 mg/1; MATC (Maximum Acceptable Toxicant Level), Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 23.3 mg/1

Cis-1, 3-dichloropropene
Acute toxicity to fish: Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species). LC50, Cyprinodon variegatus (sheepshead minnow), 96 Hour, 0.068- 1.8 mg/1, Method Not Specified.
Acute toxicity to aquatic invertebrates: EC50, Daphnia magna (Water flea), static test, 48 Hour, 1.4 mg/1, Method Not Specified.
Toxicity to Above Ground Organisms: Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm). dietary LC50, Colinus virginianus (Bobwhite quail), > 10000mg/kg diet. LC50, Apis mellifera (bees), 6 Hour, 18097mg/m3

Dichloromethane (methylene chloride)
Acute toxicity to fish: Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 193 mg/1
Acute toxicity to aquatic invertebrates: LC50, Daphnia magna water flea), static test, 27 mg/1, OECD Test Guideline 202 or Equivalent
Acute toxicity to algae/aquatic plants: EbC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Biomass, > 662 mg/1, OECD Test Guideline 201 or Equivalent
Toxicity to bacteria: EC50, activated sludge, static test, 40 min, 2,590 mg/1, OECD 209 Test
Chronic toxicity to fish: NOEC, Pimephales promelas (fathead minnow) , flow-through test, 28 d, growth, 83 mg/1

Persistence and degradability
1-(3-Chloroallyll-3,5,7-triaza-1-azoniaadamantane-chloride (CTAC)
Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. 10-day Window: Fail
Biodegradation: 51 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
Theoretical Oxygen Demand: 2.23 mg/mg

Incubation Time	BOD
5 d	23%
10 d	28%
20 d	28%

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: Radicaux OH
Method: Estimated

Cis-1 ,3-dichloropropene
Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301 D or Equivalent

Dichloromethane (methylene chloride)
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: 68%
Exposure time: 28 d
Method: OECD Test Guideline 301 D or Equivalent
10-day Window: Not applicable
Biodegradation: 66 %
Exposure time: 50 Hour
Method: Simulation study
Theoretical Oxygen Demand: 0.38 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: Radicaux OH
Atmospheric half-life: 79 - 110 d
Method: Estimated.

Bioaccumulative potential
Bioaccumulation: No data available.

Mobility in soil
1-(3-Chloroallyll-3,5,7-triaza-1-azoniaadamantane-chloride CCTAC): Potential for mobility in soil is medium (Koc between 150 and 500).
Partition coefficient (Koc): 316 OECD 121: HPLC Method

Cis-1,3-dichloropropene: Potential for mobility in soil is high (Koc between 50 and 150).

Dichloromethane (methylene chloride): Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 46.8 Estimated

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

DOT
Proper shipping name: Flammable solids, toxic, organic, n.o.s. (1-(3-CHLOROALLYL)-3,5,7-TRIAZA,-1-AZONIAADAMANTANE-CHLORIDE)
UN number: UN2926
Class: 4.1 (6.1
Packing group: III

Classification for SEA transport (IMO-IMDG)
Proper shipping name FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S. (1-(3-CHLOROALLYL)-3,5,7-TRIAZA,-1-AZONIAADAMANTANEUN-CHLORIDE
UN number: UN2926
Class: 4.1 (6.1)
Packing group: III
Marine pollutant: 1-(3-CHLOROALLYL)-3,5,7-TRIAZA,-1-AZONIAADAMANTANE- CHLORIDE
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code: Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATAIICAO):
Proper shipping name: Flammable solid, toxic, organic, n.o.s. (1-(3-CHLOROALLYL)-3,5,7-TRIAZA,-1-AZONIAADAMANTANE-CHLORIDE)
UN number: UN2926
Class: 4.1 (6.1)
Packing group: III

Section 15. Regulatory Information

OSHA Hazard Communication Standard: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312: Fire Hazard, Acute Health Hazard, Chronic Health Hazard.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
Dichloromethane (methylene chloride): 75-09-2

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103: This product contains the following substances which are subject to CERCLA Section 103 reporting requirements and which are listed in 40 CFR 302.4.
Dichloromethane (methylene chloride): 75-09-2 1000 lbs RQ

Pennsylvania Worker and Community Right-To-Know Act: The following chemicals are listed because of the additional requirements of Pennsylvania law:
Cis-1,3-dichloropropene: 10061-01-5
Dichloromethane (methylene chloride): 75-09-2

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): WARNING! This product contains a chemical(s) known to the State of California to cause cancer.
Cis-1,3-dichloropropene: 10061-01-5
Dichloromethane (methylene chloride): 75-09-2

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): This product (when prepared in aqueous formulations) contains a chemical known to the State of California to cause cancer.

United States TSCA Inventory (US.TSCA): All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

REVISION DATE: 8/22/2017