



SAFETY DATA SHEET CSI DITHIOPYR 2EW

SECTION 1: IDENTIFICATION

Product Name: Dithiopyr 2EW
EPA Registration No.: 53883-500
Recommended Use: Herbicide; See product label for a complete list of uses and use sites.
Restrictions on Use: See product label for any restrictions on the use of this product.
Chemical Family: Pyridine
Chemical Name of Active Ingredient(s): Dithiopyr: 3,5-pyridinedicarbothioic acid, 2-(difluoromethyl)-4-(2-methylpropyl)-6-(trifluoromethyl)-S,S-dimethyl ester
Manufactured for: Control Solutions, Inc.
5903 Genoa-Red Bluff
Pasadena, TX 77507

FOR FIRE, SPILL, AND/OR LEAK EMERGENCIES CONTACT: CHEMTREC 1-800-424-9300

FOR MEDICAL EMERGENCIES AND HEALTH AND SAFETY INQUIRIES CONTACT: Safety Call 1-866-897-8050

SECTION 2: HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW: Causes moderate eye irritation. Flammable liquid.

OSHA HCS CLASSIFICATION (29 CFR 1910.1200)

Skin Irritation	Category 2
Skin Sensitization	Category 1B
Reproductive Toxicity	Category 2

Signal Word: WARNING



Hazard Statement(s): Causes skin irritation.
May cause allergic skin reaction.
Suspected of damaging fertility or the unborn child.

Precautionary Statement(s):

Prevention: Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing mist/vapors/spray.
Wash skin thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.
Use personal protective equipment as required.

Response: **IF ON SKIN:** Wash with plenty of soap and water.
IF EXPOSED AND CONCERNED: Get medical advice/attention.
If Skin Irritation or Rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage: Store locked up

Disposal: Dispose of contents/container to an approved waste disposal plant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight %
Dlthiopyr	97886-45-8	24.0%
Cyclohexanone	108-94-1	13.0%
Toluene	108-88-3	0.1%

*Ingredients not listed or listed with a weight % range are considered a trade secret and are withheld under 29 CFR 1910.1200(i).

SECTION 4: FIRST AID MEASURES

IF IN EYES:	Hold eye 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 treatment advice.
IF ON SKIN:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.
IF INHALED:	Move person 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.
IF INGESTED:	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 a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms/effects, 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), any additional important symptoms and effects are described in Section 11: Toxicology Information.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
Unsuitable Extinguishing Media:	Do not use direct water stream. May spread fire.
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: Sulfur oxides. Nitrogen oxides. Hydrogen fluoride. Carbon monoxide. Carbon dioxide.
Special Protective Equipment & Precautions:	Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Foam and/or dry chemical are preferred to minimize environmental contamination. If water is used, dike and collect water to prevent run-off. Wear self-contained breathing apparatus and full fire-fighting turn-out gear (Bunker gear).
Unusual Fire & Explosion Hazards:	Container may rupture from gas generation in a fire situation.

Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. When product is stored in closed containers, a flammable atmosphere can develop.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:	See Section 8 for personal protection equipment.
Environmental Precautions:	Keep spilled material and any rinsate from contaminating soil or from entering sewage and drainage systems and bodies of water.
Methods for Containment:	Isolate the spill area and remove all sources of ignition. Keep unnecessary and unprotected personnel from entering. Absorb small spills with sand, vermiculite or other inert absorbent. Do not use combustible materials such as sawdust or cloth rags. Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify and scrape up for disposal.
Methods for Clean-up:	Place contaminated material in appropriate container for disposal. After removal, flush contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container. Do not put spilled material back in the original container.
Other Information:	This product contains cyclohexanone and spills may require reporting under Federal, state or locals laws and regulations.

SECTION 7: HANDLING AND STORAGE

Handling:	RECOMMENDATIONS ARE INTENDED FOR MANUFACTURING, PACKAGING AND COMMERCIAL BLENDING WORKERS. PESTICIDE APPLICATORS AND WORKERS must refer to the product label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Handle and open container in a manner as to prevent spillage. Do not eat, drink or smoke while handling this product. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes.
Storage:	See pesticide label for full information on product storage. Do not contaminate water, food or feed by storage of this product. Store away from sources of heat, out of direct sunlight and away from incompatible materials. Pesticides should be stored in secured areas away from children and animals.
Storage Temperature (Min/Max):	Not determined.
Product Incompatibilities:	Not determined.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Users of a pesticide product must refer to the product label for personal protective equipment requirements.

Exposure Guidelines:

COMPONENT	OSHA PEL	ACGIH TLV	NIOSH REL
Cyclohexanone	50 ppm / 200 mg/m ³ (TWA)	TWA: 20 ppm STEL: 50 ppm	25 ppm / 100 mg/m ³ (TWA)
Toluene	200 ppm (TWA) 300 ppm (CEIL)	TWA: 20 ppm	

Engineering Controls:	Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.
Respiratory Protection:	In areas of poor ventilation, use a NIOSH approved respirator with cartridges/canisters approved for organic vapors.
Eye Protection:	Chemical goggles or safety glasses and full-face shield.
Protective Gloves:	Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile, neoprene rubber, polyvinyl chloride (PVC) or Viton.
Other Protective Clothing:	Long-sleeved shirt, long pants and shoes plus socks.
General Safety Measures:	Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately after handling this product. Wash outside of gloves before removing. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Tan liquid	Upper/Lower Flammability Limits:	Not determined
Odor:	Mild	Vapor Pressure:	Not determined
Odor Threshold:	Not determined	Vapor Density:	Not determined
pH (1% dispersion):	4.57	Relative Density:	1 g/cm ³ at 20°C
Melting /Freezing Point:	Not determined	Solubility:	Not determined
Boiling Point/Range:	Not determined	Partition Coefficient:	Not determined
Flash Point:	>212°F (>100°C)	Auto-ignition Temperature:	Not determined
Evaporation Rate:	Not determined	Decomposition Temperature:	Not determined
Flammability:	Not applicable	Viscosity:	34.3 mPa.s at 20°C (68°F) 15.7 mPa.s at 40°C (104°F)

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	None known
Chemical Stability:	Stable under normal storage and handling conditions.
Possibility of Hazardous Reactions:	No potential for hazardous reactions known.
Conditions to Avoid:	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.
Incompatible Materials:	Acids, amines, oxidizers
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: Hydrogen fluoride. Nitrogen oxides. Sulfur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:	Eye contact, Skin contact, Inhalation, Ingestion
Symptoms of Exposure:	Mild skin irritation and/or allergic skin reaction.
Oral LD₅₀:	>5,000 mg/kg (rat)
Dermal LD₅₀:	>5,000 mg/kg (rabbit)
Inhalation LC₅₀:	>5.41 mg/L (4-hour)(rat) No adverse effects are anticipated from single exposure to mist. Based on the available data, narcotic effects were not observed. Based on the available data, respiratory irritation was not observed.
Eye Irritation/Damage:	May cause slight eye irritation. May cause slight corneal injury.
Skin Corrosion/Irritation:	Brief contact may cause moderate skin irritation with local redness. May cause peeling of the skin.
Skin Sensitization:	Has demonstrated the potential for contact allergy in mice.
Chronic/Subchronic Toxicity:	No data available on the mixture.
Mutagenicity:	No data available on the mixture.
Reproductive Toxicity:	For the active ingredient(s): In animal studies, did not interfere with reproduction. Cyclohexanone caused reduced growth and survival of offspring in an animal reproduction study. Dose levels producing this effect also caused central nervous system effects in parental animals. In animal studies, has been shown to interfere with reproduction in males. Effects have been seen only at doses that produced significant toxicity to the parent animals.
Neurotoxicity:	No data available on the mixture.
Target Organs:	In animals, dithiopyr has been reported to effect the liver, kidney, adrenal gland, thyroid, gall bladder and blood.
Aspiration Hazard:	Not anticipated to be an aspiration hazard.
Carcinogenicity:	See below.

Chemical Name	ACGIH	IARC	NTP	OSHA
Cyclohexanone	A3	Group 3		

SECTION 12: ECOLOGICAL INFORMATION**Environmental Hazards Statement from FIFRA Regulated Pesticide Label:**

This product is toxic to fish and highly toxic to other aquatic organisms including oysters and shrimp. Use with care when applying to turf areas adjacent to any body of water. Drift and runoff from treated turf may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwater or rinsate.

ECOTOXICITY DATA:

Fish Toxicity:	Dithiopyr Technical: LC ₅₀ , <i>Cyprinus carpio</i> (Carp), semi-static test, 96 Hour, 3.0 mg/L
Aquatic Invertebrate Toxicity:	Dithiopyr Technical: EC ₅₀ , <i>Daphnia magna</i> (Water flea), semi-static test, 48 Hour, 4.9 mg/L, Cyclohexanone: <i>Daphnia magna</i> 24 hr EC ₅₀ = 820 mg/L

Aquatic Plant Toxicity:	2-Ethylhexanol: <i>Daphnia magna</i> 48 hr EC ₅₀ = 39 mg/L Dithiopyr Technical: ErC ₅₀ , <i>Pseudokirchneriella subcapitata</i> (green algae), static test, 72 Hour, Growth rate inhibition, 0.15 mg/L
Avian Toxicity:	No data available
Honeybee Toxicity:	Dithiopyr Technical: Contact LD ₅₀ = 80 µg/bee

ENVIRONMENTAL EFFECTS:

Persistence and Degradability:	No data available
Bioaccumulation:	No data available
Mobility:	No data available
Other Adverse Effects:	No data available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal:	Refer to the pesticide label for full information on disposal. Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.
Container Disposal:	Refer to the pesticide label for full information on disposal. When possible, triple rinse the container and offer for recycling if available.
RCRA Characteristics:	It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

SECTION 14: TRANSPORTATION INFORMATION

DOT (Ground):	Not regulated in packages less than 4,600 gallons. For packages greater than 4,600 gallons: UN3082, Environmentally hazardous substance, liquid, n.o.s. (Cyclohexanone), 9, PGIII, Marine Pollutant
IMDG (Sea):	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Dithiopyr), 9, PGIII, Marine Pollutant
IATA (Air):	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Dithiopyr), 9, PGIII

SECTION 15: REGULATORY INFORMATION

Labeling Requirements Under FIFRA: 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

Causes skin irritation. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Do not get on skin or on clothing. Avoid contact with eyes. 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.

TSCA Inventory: This product is exempt from TSCA inventory listing requirements as it is solely for FIFRA regulated use.

SARA Title III Information:

Section 302 – Extremely hazardous substances: None
Section 311/312 – Hazard Categories: Acute (Immediate); Chronic (Delayed)
Section 313 – 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 Number	Weight %	SARA 313 – Threshold Values (lbs)
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.			

CERCLA – This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Chemical Name	CAS Number	RQ	Quantity of Finished Product
Cyclohexanone	108-94-1	5,000 lbs.	4,600 gallons

CALIFORNIA PROPOSITION 65:

Chemical Name	CAS Number	Prop 65 Category(ies)
Toluene	108-88-3	Reproductive Toxicity

U.S. STATE RIGHT-TO-KNOW REGULATIONS:

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Cyclohexanone	X	X	X

SECTION 16: OTHER INFORMATION

NFPA	Health Hazards 1	Flammability 1	Instability 0	Special Hazards – None
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