

SAFETY DATA SHEET

Quali-Pro[®] 2DQ

1. IDENTIFICATION

Product name: **Quali-Pro[®] 2DQ**
Product type: Herbicide
EPA Registration No.: 53883-334
Chemical name of active ingredient(s): Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid
Dimethylamine Salt of Dicamba (3,6-dichloro-o-anisic acid)
Quinclorac: 3,7-dichloro-8-quinolinecarboxylic acid

Manufacturer/Registrant: **Control Solutions, Inc.**
5903 Genoa-Red Bluff
Pasadena, TX 77507

For fire, spill, and/or leak emergencies, contact Chemtrec: Phone: 1-800-424-9300
For medical emergencies and health and safety inquiries, contact Safety Call: Phone: 1-866-897-8050
Poison Control Center Phone: 1-800-222-1222

2. HAZARDS IDENTIFICATIONS

OSHA HCS CLASSIFICATION (29 CFR 1910.1200)

Acute Toxicity:

	Acute oral	Acute dermal	Acute inhalation	Eye irritation	Skin irritation	Skin Sensitization
Category	4	NC	4	1	2	NC

NC: Not classified

SIGNAL WORD: DANGER

HAZARD STATEMENTS:

- Harmful if swallowed
- Harmful if inhaled
- Cause serious eye damage
- Cause skin irritation

PICTOGRAMS:



PRECAUTIONARY STATEMENTS:

- Wash hand thoroughly after handling. Do not eat, drink or smoke when using this product. If swallowed: call a poison center or doctor if you feel unwell. Rinse mouth.
- Avoid breathing mist, vapors and spray. Use only outdoors or in a well-ventilated area. If inhaled: remove a person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

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- Wear eye or face protection. If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuing rinsing. Immediately call a poison center or doctor.
- Wash hand thoroughly after handling. Wear protective gloves. If on skin: wash with plenty of water. If skin/irritation occurs: Get medical advice. Take off contaminated clothing and wash it before reuse.

Contact Safety Call[®] International for emergency medical treatment at (866) 897-8050.

3. COMPOSITION/INFORMATION ON INGREDIENTS

COMMON NAME	CAS NO.	%	OSHA PEL	ACGIH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Dimethylamine Salt of 2,4-D	2008-39-1	40.0	10 mg/m ³ *	10 mg/m ³ *	NE	IARC-2B TLV-A4**
Dimethylamine Salt of Dicamba	2300-66-5	4.21	NE	NE	NE	NA
Quinclorac	84087-01-4	3.30	NE	NE	NE	NA
Dimethylamine 60%	124-40-3	> 1	10 ppm (TWA)	5 ppm (TWA) 15 ppm (STEL)	NE	NA

NE=Not established; NA=Not applicable.

* Exposure limits for 2,4-D.

**Carcinogen classifications for 2,4-D. IARC lists exposure to chlorophenoxy herbicides as a class 2B carcinogen - the agent (mixture) is possibly carcinogenic to humans. There is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals. TLV-A4 - Not classifiable as a human carcinogen. "There are inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals."

4. FIRST AID MEASURES

FIRST AID	
IF IN EYES:	<ul style="list-style-type: none"> • 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 OR CLOTHING:	<ul style="list-style-type: none"> • 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 SWALLOWED:	<ul style="list-style-type: none"> • 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.
IF INHALED:	<ul style="list-style-type: none"> • 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.

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Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact SafetyCall[®] International (866)897-8050 for emergency medical treatment information.

Note to Physician: If in eyes, specialized ophthalmologic attention may be necessary. If swallowed, probable mucosal damage may contraindicate the use of gastric lavage. There is no specific antidote; treat symptomatically.

5. FIRE FIGHTING MEASURES

FLASH POINT: NA

FLAMMABLE LIMITS: NA

EXTINGUISHING MEDIA: Water spray, CO₂, foam, dry chemical.

UNUSUAL FIRE, EXPLOSION HAZARDS: Hydrogen chloride, oxides of nitrogen and carbon. Traces of the substances/groups of substances mentioned can be released in case of fire. This product may burn at a very high temperature but not ignite readily.

FIRE-FIGHTING PROCEDURES: Wear full protective clothing and self-contained breathing apparatus and turn-out gear. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. Water runoff can cause environmental damage, contain firefighting water.

HAZARDOUS DECOMPOSITION PRODUCTS: Product can decompose if heated to form toxic gases.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment. Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

CLEANUP: Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment. Carefully open containers and after partial use close container tightly. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

PRECAUTIONS TO BE TAKEN IN STORAGE: KEEP FROM FREEZING. Store in safe manner. Store in original container only. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect package strength. Personnel should use clothing and equipment consistent with good pesticide handling. Do not store under conditions which might adversely affect the container or its ability to function properly.

STORAGE TEMPERATURE (MIN/MAX): Normal ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

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EYE PROTECTION: Wear protective eyewear (goggles, face shield, or safety glasses).

HAND PROTECTION: Chemical-resistant gloves such as butyl rubber > 14 mils, natural rubber > 14 mils, neoprene rubber > 14 mils, or nitrile rubber > 14 mils.

SKIN PROTECTION: Long-sleeved shirt and long pants. Shoes plus socks. Chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate

RESPIRATOR REQUIREMENTS: For most conditions, no respiratory protection required. However, if handling without sufficient ventilation, use NIOSH approved air-purifying respirator with any N, P or R95 class filter and an organic vapor cartridge.

ADDITIONAL PROTECTIVE MEASURES:

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

USER SAFETY RECOMMENDATIONS:

Users Should:

- Wash hands, face and arms thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.
- Remove and wash contaminated clothing before reuse.

EXPOSURE GUIDELINES: Refer to Section 3.

ENGINEERING CONTROLS: Refer to product label. Provide local exhaust ventilation. Minimize airborne concentrations.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Transparent dark amber liquid

ODOR: Moderate

pH: 8.48

FLASH POINT: NA

DENSITY: 1.155 g/cm³ (9.64 lbs/gal) at 25°C; 1.145g/cm³ (9.56 lbs/gal) at 39°C

VISCOSITY (cSt): 11.3 at 25°C; 6.49 at 39°C

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Avoid strong oxidizer and extreme temperature.

HAZARDOUS DECOMPOSITION PRODUCTS: Product can decompose if heated to form toxic gases.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY/IRRITATION STUDIES:

- Acute Oral LD₅₀ (Rat): > 1,098 mg/kg
- Acute Dermal LD₅₀ (Rat): > 2,000 mg/kg
- Acute Inhalation LC₅₀ (Rat): > 2.11 mg/L/4 hr
- Eye Irritation (Rabbit): Severely irritating
- Skin Irritation (Rabbit): Moderately irritating
- Dermal Sensitization: Not a skin sensitizer

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

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CHRONIC/SUBCHRONIC TOXICITY:

Quinclorac: Prolonged overexposure may cause effects to liver and kidneys.

REPRODUCTIVE TOXICITY:

Quinclorac: The results of animal studies gave no indication of a fertility impairing effect.

DEVELOPMENTAL EFFECTS:

Quinclorac: No indications of a developmental toxic/teratogenic effect were seen in animal studies.

MUTAGENICITY:

Quinclorac: No evidence of mutagenic effects during in vivo or in vitro studies.

2,4-D acid: Not known to be mutagenic.

Dicamba acid: Not known to be mutagenic.

CARCINOGENICITY:

Quinclorac: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

2,4-D, dimethylamine salt/2,4-D acid: IARC lists exposure to chlorophenoxy herbicides as a class 2B carcinogen - as agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals. EPA lists a D, unclassifiable due to ambiguous data.

Dicamba: EPA Group D – Not classifiable as to human carcinogenicity.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: This product is toxic to fish and aquatic invertebrates and may adversely affect nontarget plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

ECOTOXICITY (Data based on 2,4-D acid):

Data based on 2,4-D:

LC₅₀ (96h) for Rainbow Trout: 250 mg/l

LC₅₀ (96h) for Bluegill Sunfish: 524 mg/l

EC₅₀ (48h) for Daphnia: 184 mg/l

LD₅₀ Bobwhite Quail: 500 mg/kg

LC₅₀ (8-Day) Mallard Duck: > 5,620 ppm

ENVIRONMENTAL FATE: 2,4-D has a low binding affinity in soil and sediment particles and has been detected in groundwater at approximately 15 ppb, which is well below the drinking water levels of concern (DWLOC). Dissipation studies indicate that 2,4-D degrades rapidly in soils by its volatility, photolysis, and aerobic environments, with a half-life in soil and water at 6 to 15 days. 2,4-D is more persistent in anaerobic aquatic environments with a half-life ranging from 41 to 333 days.

Data based on Dicamba:

LC₅₀ (96h) for Rainbow Trout: 135 mg/l

LC₅₀ (96h) for Bluegill Sunfish: 135 mg/l

EC₅₀ (48h) for Daphnia: 110 mg/l

LD₅₀ (8-day) dietary Bobwhite Quail : > 10,000 ppm

LC₅₀ (8-Day) dietary Mallard Duck: > 10,000 ppm

LD₅₀ (48-h contact) Honey bee: > 100 µg/bee

ENVIRONMENTAL FATE: Dicamba poorly binds to soil particles, is potentially mobile in the soil and highly soluble in water. Aerobic soil metabolism is the main degradative process for dicamba with a

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typical half-life of 2 weeks. Degradation is slower when low soil moisture limits microbe populations. In water, microbial degradation is the main route of dicamba dissipation. Aquatic hydrolysis, volatilization, adsorption to sediments, and bioconcentration are not expected to be significant.

Data based on Quinclorac:

LC₅₀ (96h) for Rainbow Trout: > 100 mg/l

LC₅₀ (96h) for Bluegill Sunfish: > 100 mg/l

EC₅₀ (48h) for Daphnia: 113 mg/l

LD₅₀ oral Bobwhite Quail: 2,000 mg/kg

LC₅₀ (8-Day) dietary Mallard Duck: > 5,000 ppm

LD₅₀ (96-h) honey Bee: > 100µg/bee

ENVIRONMENTAL FATE: Quinclorac can be moderately persistent in the soil. Soil mobility of quinclorac is highly variable and depends on soil type and organic matter. The Koc, depending on soil type, ranged from 13 to 54. Quinclorac is stable to hydrolysis and photolysis.

13. DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use 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.

CONTAINER DISPOSAL: Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

14. TRANSPORT INFORMATION

DOT CLASSIFICATION:

Package size < 26 gallons: Not regulated

Package size ≥ 26 gallons: UN3082, Environmentally Hazardous Substance, Liquid, N.O.S.
(Dimethylamine Salt of 2, 4-D), 9, PG III, RQ

15. REGULATORY INFORMATION

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 for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

DANGER Corrosive. Causes irreversible eye damage. Harmful if swallowed or absorbed through skin. Avoid contact with skin. Do not get in eyes or on skin or clothing

SARA TITLE III CLASSIFICATION:

Section 302: Not applicable.

Section 311/312: Acute health hazard (immediate)
Chronic health hazard (delayed)

Section 313: 2,4-D acid (CAS 94-75-7) (33.22%)
Dicamba acid (CAS 1918-00-9) (3.5%)

CA PROPOSITION 65: Not applicable.

CERCLA RQ: Dimethylamine Salt of 2,4-D (RQ 100 lbs.) = 26 gallons product
Dicamba acid (RQ 1000 lbs.)

RCRA CLASSIFICATION: Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

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TSCA STATUS: The ingredients of this product are listed on the TSCA inventory or are exempt.

16. OTHER INFORMATION

HAZARD RATINGS	NFPA	HMIS	
HEALTH:	3	3	0 MINIMAL
FLAMMABILITY:	0	0	1 SLIGHT
REACTIVITY:	1	1	2 MODERATE
			3 HIGH
			4 SEVERE

MSDS DATE: 6-3-2013

The information and recommendations contained herein are based upon data believed to be correct. However, no warranty of any kind, expressed or implied, is made with respect to the information contained herein.