

SAFETY DATA SHEET

1. Identification:	
Product Identifier:	Motivate®
Other Means of Identification:	EPA registration number 85678-9-82917
Distributed by:	Fine Americas, Inc. 1850 Mt. Diablo Blvd., Suite 405, Walnut Creek, CA 94596, USA Tel: 925-932-8800
Emergency Phone Number:	Chemtrec 1-800-424-9300 (24 hours)
Recommended Use:	For use on apples, blackberries, blueberries, cantaloupes, cherries, grapes, peppers, pineapple, sugarcane, tobacco, tomatoes, walnuts; for reducing lodging in barley and wheat.
Restrictions on Use:	For commercial use or agricultural use only. Not intended for residential use. Keep out of reach of children.
2. Hazard(s) Identification (This product is classified as hazardous as defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200):	
Class/Category:	Skin Corr 1C, Corrosive to metals 1
Route of Exposure:	Primarily dermal and oral
Hazards Not Otherwise Classified:	None
Signal word:	DANGER
Symbol(s):	
Hazard Statements:	Causes severe burns and eye damage (H314) May be corrosive to metals (H290)
Precautionary Statements:	<p>Prevention: Keep only in original container. (P234) Do not breathe fumes/gas/mist/vapours/spray (P260) Wash hands thoroughly after handling. (P264) Wear protective gloves/protective clothing/eye protection/face protection. (P280)</p> <p>Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. (P301+330+331) IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. (P303+361+353) IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304+340) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. (P305+351+338) Immediately call a POISON CENTER/doctor (P310) Wash contaminated clothing before reuse. (P363) Absorb spillage to prevent material damage (P390)</p> <p>Storage: Store locked up (P405) Store in corrosive resistant container (P406)</p> <p>Disposal: Dispose of contents/container to an approved waste disposal plant. (P501)</p>
3. Composition:	

This product contains the following components classified as hazardous under 29 CFR 1910.1200

CAS number:	Component:	Percent:
16672-87-0	Ethephon	21.7%

The remainder of the mixture is not required to be disclosed by 29 CFR 1910.1200.

4. First Aid Measures:

Inhalation:	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
Eyes:	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. If eye irritation persists get medical advice / attention.
Skin:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice
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 a poison control center or doctor. Do not give anything to an unconscious person.
Symptoms/Effects:	Acute: No available information Delayed: No available information
Indication of immediate medical attention and special treatment needed, if necessary:	No available information

5. Fire Fighting Measures:

Extinguishing Media:	Suitable: Use foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material. Unsuitable: Water
Specific Hazards Arising from the Chemical:	May produce gasses such as hydrogen chloride and oxides of carbon and nitrogen.
Protective Equipment and Precautions for Firefighters:	Full firefighting turn-out gear (Bunker gear) including self-contained breathing apparatus with full face piece.

6. Accidental Release Measures:

Personal Precautions, Protective Equipment and Emergency Procedures:	Refer to Section 8 “Exposure controls/personal protection”
Methods for Containment and Clean-Up:	IN CASE OF SPILLS OR LEAKS: Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of soil, surface water, or ground water. Clean up spills immediately. Observe precautions in Section 8 of this document. Keep unnecessary and unprotected personnel from entering. SMALL SPILL: Absorb small spills with sand, vermiculite, or other absorbent inert ingredients. Place material in a container for proper disposal. LARGE SPILL: Dike spill using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse or disposal. Allow absorbed material to solidify and scrape up for disposal. After removal, clean contaminated area thoroughly with water. Pick up wash liquid with additional absorbent for disposal. Minimize use of water to prevent environmental contamination. See also Section 13. Disposal Considerations.
Other Information:	US Regulations may require reporting of spills of hazardous materials. See Section. 15 Regulatory Information for details on reportable quantities, if any.

7. Handling and Storage:

Precautions for Safe Handling:	Use only in a well-ventilated area. Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling
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	concentrate. Wash hands before eating, drinking, chewinggum, using tobacco or using the toilet. Remove clothing if pesticide gets inside clothing. Then wash thoroughly and put on clean clothing. Remove PPE after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Do not reuse container.
Conditions for Safe Storage:	Keep pesticide in original container. Keep container tightly closed when not in use. Store in a locked storage area. Avoid cross contamination with other pesticides or fertilizers during handling and storage. Store in a cool, dry place. Do not contaminate water, feed, or food by storage and disposal. Do not store diluted spray. See also Section 10. Stability and Reactivity.

8. Exposure Controls/Personal Protection:

Component Exposure Limits:

Substance	OSHA PEL		Ca/OSHA PEL	NIOSH REL	ACGIH TLV
	ppm	Mg/m3	8-hr TWA (ST) STEL (C) Ceiling	Up to 10 hr TW (ST) STEL (C) Ceiling A	8-hr TWA (ST) STEL (C) Ceiling
No listing					

Appropriate Engineering Controls:

No applicable information available.

Personal Protective Equipment:

Eyes/Face: Protective eyewear. An emergency eyewash or water supply should be readily accessible to work area.

Skin: Wear coveralls over long-sleeved shirt and long pants, chemical resistant shoes plus socks, and chemical-resistant gloves made of any waterproof material. Wear a chemical resistant apron when cleaning equipment, mixing, or loading. For overhead exposure wear chemical-resistant headgear. An emergency shower or water supply should be readily accessible to work area.

Respiratory: Normally not required. If vapors or mists may exceed acceptable levels, wear NIOSH approved air-purifying respirator approved for pesticides.

9. Physical and Chemical Properties:

Appearance:	Translucent liquid
Odor:	Minimal
Odor Threshold:	No data available.
pH:	0.8 Determined in the undiluted form
Melting Point/Freezing Point:	No data available
Boiling Point:	212°F (100°C)
Flash Point:	Not applicable due to aqueous formulation
Evaporation Rate:	No data available
Flammability/Limits:	No data available LFL: No data available UFL: No data available
Vapor Pressure:	< 0.013 hPa at 25°C
Vapor Density:	Not applicable
Relative Density:	No data available
Solubility (H₂O):	Soluble
Partition Coefficient:	No data available
Auto-Ignition Temperature:	No data available
Decomposition Temperature:	No data available
Viscosity:	No data available

10. Chemical Stability and Reactivity Information:

Reactivity:	No applicable information available.
Chemical Stability:	Stable under normal handling and storage conditions (40-70°F)

Possibility of Hazardous Reactions:	No applicable information available.
Conditions to Avoid:	Avoid excessive heat, direct sunlight, and exposure to air. Keep containers sealed.
Incompatible Materials:	Oxidizing agents and alkaline materials. Corrosive to iron, mild steel, aluminum and copper.
Hazardous Decomposition Products:	Hydrogen chloride and oxides of carbon and phosphorus may be released during thermal decomposition. Reaction with alkaline materials causes evolution of ethylene gas.

11. Toxicological Information:

Likely Routes of Exposure:	Most likely exposure by Dermal or oral route
Symptoms:	Inhalation: No data available Eye: Corrosive Skin: Moderate Ingestion: No data available
Acute Toxicity:	Oral: LD ₅₀ Rat >5,000 mg/kg (EPA category IV) Inhalation: LC ₅₀ Rat >4.5 mg/l (EPA category IV) Dermal: LD ₅₀ Rat >2,000 mg/kg (EPA category III)
Skin Corrosion/Irritation:	Moderate corrosion (rabbit) (EPA category II)
Serious Eye Damage/Eye Irritation:	Corrosive (rabbit) (EPA category I)
Sensitization:	Non-sensitizing (guinea pig)
Germ Cell Mutagenicity:	No evidence of mutagenic effects during in vivo or in vitro studies.
Carcinogenicity:	None of the components of this product are listed as carcinogens by NTP, IARC or OSHA.
Reproductive/Developmental Toxicity:	At the highest doses, ethephon caused decreased pup body weight in a two generation study in rats. No effects were observed on fertility, gestation, mating, organ weights, or histopathology.
Specific Target Organ Toxicity:	Single Exposure: No data available Repeated Exposure: No data available

12. Ecological Information:

Ecotoxicity:			
	Species:	Exposure Time	LC50/EC50/IC50
	Fish (Rainbow Trout)	96 hr	LC50 350 mg/L
	Fish (Bluegill)	96 hr	LC50 300 mg/L
	Bird (Bobwhite Quail)		LD50 >1,000 mg/kg
	Bird (Mallard Duck)		LD50 >6,000 ppm
Persistence and Degradability:	No data available		
Bioaccumulation Potential:	No data available		
Mobility in Soil:	Ethephon has low to moderate soil mobility. It degrades rapidly in soil under aerobic conditions and in water under anaerobic conditions with a half-life ranging between 7 to 30 days.		
Other Adverse Effects:	None known		

13. Disposal Considerations:

Disposal Instructions:	Do not contaminate water, food or feed by storage or disposal. PESTICIDE DISPOSAL: Pesticide waste may be acutely hazardous. Improper disposal is a violation of Federal law. If these waste cannot be disposed of according to label instructions, contact your state Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office. CONTAINER DISPOSAL: Non-refillable container: Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the
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	flow begins to drip. Repeat this procedure two more times. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Refer to the product label for additional and complete Container Handling instructions.
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14. Transport Information:

UN Proper Shipping Name:	Corrosive liquid, acidic, organic, N.O.S. (contains Ethephon)
Hazard Class:	8
UN Number:	UN3265
Packing Group:	III
Marine Pollutant:	No applicable information available
NMFC Number/Class:	101685/85

15. Regulatory Information:

SARA TITLE III:	
311/312 HAZARD CATEGORY:	Immediate health (acute). Delayed health (chronic)
313 TOXIC CHEMICALS:	None
CERCLA:	Not applicable
TSCA:	Exempted - solely for FIFRA regulated use

Component Analysis – State:

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
No component listed							

California Prop 65: Not listed

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.

EPA signal word: DANGER

Classifications under 40 CFR 156.63 are given in sections 9 and 11 where applicable

Precautionary Statements: **DANGER. HAZARDS TO HUMANS AND DOMESTIC ANIMALS.**
 Corrosive: Causes irreversible eye damage. Wear safety goggles when handling. Harm-ful if swallowed or absorbed through skin. Do not get in eyes or on clothing. Avoid con-tact with skin. Do not inhale vapors, as this product will irritate mucous membranes.

Pictograms/Symbols: None

16. Other Information:

Fine Agrochemicals Limited ("FINE") warrants that this Product conforms to the specifications on this label. To the extent consistent with applicable law, FINE makes no other warranties and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for a particular purpose. No agent of FINE or any other person is authorized to make any representation or warranty beyond those contained herein.

It is impossible to eliminate all risks associated with this Product. Plant injury, lack of performance, or other unintended consequences may result because of factors such as abnormal weather conditions, use of the Product other than in strict accordance with this label's instructions, presence of other materials, the manner of application or other factors, all of which are beyond the control of FINE or the seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

To the extent consistent with applicable law: 1) FINE disclaims any liability whatsoever for special, incidental or consequential damages resulting from the handling or use of this Product and 2) FINE's liability under this label shall be limited to the amount of the purchase price or, at the election of FINE, the free replacement of the Product.

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