



NFPA HAZARD RATING				U.S. TRANSPORT SUMMARY	
0	Least			 <p>See Section 14 for full information.</p>	
1	Slight	2	Health		
2	Moderate	0	Flammability		
3	High	0	Reactivity		
4	Severe				

SECTION 1: IDENTIFICATION	
<b>Product Name:</b> Boll'd® <b>EPA Registration #:</b> 9779-349 <b>Product ID/Unity #:</b> 10000774, 10000775, 10008225 <b>Chemical Description:</b> 2-(Chloroethyl) phosphonic acid <b>Recommended Uses:</b> Agricultural Plant Growth Regulator – See product label for complete list of uses and use sites. <b>Restrictions for Use:</b> See product label for information regarding restrictions on the use of this product.	<b>MEDICAL EMERGENCY TELEPHONE NUMBER:</b> 1-877-424-7452 (24hrs)  <b>Non-Emergency Business Inquiries:</b> 1-855-494-6343 Mon – Fri 8am – 5pm (Central Standard Time)
<b>Manufactured For:</b> <b>WINFIELD SOLUTIONS, LLC</b> P. O. Box 64589 St. Paul, MN 55164-0589	
<b>FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL:</b> <b>CHEMTREC 1-800-424-9300 (24 hours)</b>	

SECTION 2: HAZARDS IDENTIFICATION	
<b>OSHA HCS 2012 CLASSIFICATION:</b> This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200). Corrosive to Metals Category 1; Acute Dermal Toxicity Category 4; Skin Corrosion/Irritation Category 1C; Eye Damage/Irritation Category 1; Skin Sensitization Category 1B; Acute Inhalation Category 4	
<b>EMERGENCY OVERVIEW</b>	
<b>SIGNAL WORD:</b> DANGER  <b>HAZARD STATEMENTS:</b> Harmful in contact with skin. Harmful if inhaled. May cause an allergic skin reaction. Causes severe skin burns and eye damage. May be corrosive to metals.	
<b>Appearance:</b> Clear to slightly hazy yellow liquid	<b>Physical State:</b> Liquid
<b>Odor:</b> Mild	
<b>PRECAUTIONARY STATEMENTS:</b>	
<b>Prevention:</b>	Wear protective glove, protective clothing, and eye and face protection. Do not breathe mists or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothes must not be allowed out of the workplace. Keep only in original container.
<b>Response:</b>	<b>If in Eyes:</b> Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison control center (1-877-424-7452) or doctor. <b>If Swallowed:</b> Rinse mouth. Do NOT induce vomiting. Immediately call a poison control center (1-877-424-7452) or doctor. <b>If on skin (or hair):</b> Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a poison control center (1-877-424-7452) or doctor for treatment advice.
<i>Continued on next page</i>	

**If inhaled:** Remove person to fresh air and keep comfortable for breathing. Immediately call a poison control center (1-877-424-7452) or doctor.  
 Absorb spillage to prevent material damage.  
**Storage:** Store locked up. Store in corrosive resistant container with a resistant inner liner.  
**Disposal:** Dispose of contents/container in accordance with Federal, state and local regulations.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Ingredient	% (wt)	CAS Reg. #
Ethephon	55.4%	16672-87-0
Other Ingredients*	44.6%	*

\*Ingredients not specifically listed are proprietary or non-hazardous and are considered to be confidential business information under 29 CFR 1910.1200(i).  
 See Section 8 for exposure limits.

**SECTION 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 by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.  
**Ingestion:** Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.  
**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 (or clothing):** 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.  
**Notes to Physician:** Treat symptomatically. No specific antidote is available. Probable mucosal damage may contraindicate the use of gastric lavage.

**SECTION 5: FIRE FIGHTING MEASURES**

**Suitable Extinguishing Media:** Carbon dioxide (CO2), alcohol-resistant foam, water spray, dry chemical.  
**Unsuitable extinguishing media:** Do not use water jet as an extinguisher, as this will spread the fire.  
**Special Fire Fighting Procedures:** Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Do not contaminate water sources. Avoid breathing vapors; keep upwind.  
**Hazardous Combustion Products:** Corrosive and toxic gases may be formed in a fire situation. Carbon monoxide and other asphyxiates may form as well.  
**Unusual Fire and Explosion Hazards:** Material will not burn. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.  
**Environmental Precautions:** Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.  
**Methods for Containment:** Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.  
**Methods for Clean-up:** Avoid creation of dusty conditions. Scrape up and place in appropriate closed container. Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.  
**Other Information:** None known

SECTION 7: HANDLING AND STORAGE			
<p><b>Handling:</b> RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS AND WORKERS must refer to the pesticide 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. Use only outdoors or in a well ventilated area. Do not get in eyes or on clothing or skin. Immediately clean up spills that occur during handling. Keep containers closed when not in use. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.</p> <p><b>Storage:</b> Store in cool, dry areas away from children, feed and food products and sources of heat. Store in original container with lid tightly closed. See pesticide product label for additional storage information.</p> <p><b>Minimum Storage Temperature:</b> Protect from freezing.</p> <p><b>Other Precautions:</b> Consult Federal, state and local laws and regulations pertaining to storage.</p>			

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION			
<b>Exposure Guidelines</b>			
<b>Component:</b>	<b>OSHA PEL</b>	<b>ACGIH TLV</b>	<b>NIOSH REL</b>
No components have established limits			
<b>Engineering Controls:</b>	<p><b>Local Exhaust:</b> Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.</p>		
<p><b>Skin Protection:</b> Wear chemical resistant gloves, long sleeve shirt, long pants and shoes plus socks to prevent skin exposure.</p> <p><b>Eye Protection:</b> Wear chemical goggles or safety glasses and full-face shield. Contact lenses are not eye protective devices. An emergency eyewash or water supply should be readily accessible to the work area.</p> <p><b>Respiratory Protection:</b> Seek professional advice prior to respirator selection and use. Use NIOSH/MSHA approved respirator for organic vapors. Use positive pressure contained breathing apparatus where emergency conditions or where exposure limits are exceeded or as deemed necessary.</p> <p><b>NOTE TO END USERS:</b> PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING LISTED IN THIS SECTION IS FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD REFER TO THE PESTICIDE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING.</p> <p><b>Work/Hygienic Practices:</b> Never eat, drink, nor use tobacco in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.</p>			

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES			
<b>Physical State:</b>	Liquid	<b>Specific Gravity (H<sub>2</sub>O=1):</b>	1.30
<b>Vapor Pressure (mm Hg):</b>	0.000061 mmHg @ 20°C	<b>Density (lbs/gallon):</b>	10.85 lbs/gallon
	(Ethephon)	<b>Freezing Point:</b>	<40°C
<b>Vapor Density (Air=1):</b>	Not determined	<b>Boiling Point:</b>	Not determined
<b>Solubility in Water (wt %):</b>	Soluble	<b>pH:</b>	<2
<b>Viscosity:</b>	Not determined	<b>Flash Point:</b>	Not applicable
<b>Appearance and odor:</b>	Clear to slightly hazy yellow liquid with mild odor.		

SECTION 10: STABILITY AND REACTIVITY	
<p><b>Reactivity:</b> No hazardous reactions when stored and handled according to label instructions.</p> <p><b>Chemical Stability:</b> Product is stable at ambient temperature and pressure, under normal storage and handling conditions.</p> <p><b>Possibility of Hazardous Reactions:</b> Hazardous polymerization will not occur.</p> <p><b>Conditions to Avoid:</b> Elevated temperatures, direct sunlight and high humidity.</p> <p><b>Incompatible Materials:</b> Strong oxidizers and bases. Corrosive to metals such as iron, aluminum, zinc, mild steel and copper.</p> <p><b>Hazardous Decomposition Products:</b> Gases including but not limited to oxides of nitrogen, oxides of carbon and hydrogen chloride may be released during thermal decomposition. Reaction with alkaline materials causes evolution of ethylene gas.</p>	

SECTION 11: TOXICOLOGICAL INFORMATION	
<b>ACUTE TOXICITY (Similar Product)</b>	
Eye Effects:	Corrosive. Causes severe eye irritation or permanent eye damage.
Skin Effects:	LD <sub>50</sub> (rabbit) = 1,710 mg/kg (female); 1,390 mg/kg (male) Harmful if absorbed through skin. Corrosive. Causes skin burns. May cause an allergic skin reaction.
Acute Inhalation Effects:	LC <sub>50</sub> (rat) > 4.50 mg/L (4 hour) Harmful if inhaled. Causes mucous membrane irritation and possible burns.
Acute Oral Effects:	LD <sub>50</sub> (rat) = 2,210 mg/kg (female); 3,730 mg/kg (male). Causes mucous membrane irritation and possible burns if swallowed.
Percent of product with unknown toxicity: 0%	
<b>SUBCHRONIC / CHRONIC TOXICITY</b>	
Specific Target Organ Toxicity (Subchronic):	Repeated overexposure to ethephon may cause cholinesterase inhibition, red blood cell effects and/or kidney effects
Carcinogenicity:	Not listed with ACGIH, IARC, NTP or OSHA.
Mutagenicity/Genotoxicity:	There have been some positive and some negative studies, but the weight of evidence is that Ethephon is not genotoxic or mutagenic.
Developmental Toxicity:	Ethephon did not cause developmental effects in animals.
Reproductive Toxicity:	Ethephon caused decreased pup body weights at the highest dose in a two generation study in rats. No effects were observed on fertility, gestation, mating organ weights or histopathology.
Further information	Acute toxicity studies have been bridged from similar formulations(s) The non-acute (chronic/subchronic) information pertains to the active ingredient

SECTION 12: ECOLOGICAL INFORMATION	
<b>ENVIRONMENTAL SUMMARY:</b> Do not apply directly to water, or to areas where surface water is present. Do not contaminate water when disposing of equipment washwaters. Do not contaminate water used for irrigation or domestic purposes.	
<b>Ecotoxicity (Data on Ethephon 75%):</b>	
96-hour LC <sub>50</sub> Fathead Minnow: 88 mg/L	Bobwhite Quail Oral LD <sub>50</sub> : 596 mg/kg
48-hour EC <sub>50</sub> Daphnia: 54 ppm	Mallard Duck 8-day Dietary LC <sub>50</sub> : >5,000 ppm
<b>ENVIRONMENTAL EFFECTS:</b>	
Ethephon is stable to hydrolysis in acidic water, but does rapidly hydrolyze in neutral and alkaline environments with a half-life ranging from a few days to a few weeks. Etkephon is stable to photolysis in water with an estimated half-life of 139 days. Photodegradation on soil does not appear to be a significant route of dissipation. Etkephon degrades fairly rapidly in soil under aerobic and in water under anaerobic conditions with half-life ranging from 7 to 30 days. Etkephon is characterized as having moderate to low mobility in soil.	

SECTION 13: DISPOSAL CONSIDERATIONS	
<b>Waste:</b> Dispose of in accordance with applicable Federal, state and local laws and regulations.	
<b>Container:</b> Triple rinse and recycle the container or dispose of in accordance with Federal, state and local laws and regulations. See pesticide product label for full instructions on disposal.	
<b>RCRA Characteristics:</b> It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.	

SECTION 14: TRANSPORT INFORMATION	
DOT: (Ground)	UN3265, Corrosive liquid, acidic, organic, n.o.s. (Ethephon), 8, PG III Emergency Response Guide #: 153
IMDG: (Sea)	Not determined
IATA: (Air)	Not determined
TDG: (Canada)	Not determined

**SECTION 15: REGULATORY INFORMATION**

**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 listed

**Section 311/312 – Hazard Categories:**

Acute Health Hazard: Yes

Chronic Health Hazard: Yes

Fire Hazard : No

Sudden Release of Pressure Hazard: No

Reactive Hazard: No

**Section 313 –** The following chemicals are subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:

None listed

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

None 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:

**DANGER**

Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed or absorbed through skin. Do not get in eyes, on skin or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**State Information:**

**California Proposition 65:** This product does not contain chemicals known to the state of California to cause cancer and/or reproductive harm.

**Other State Information:** Other state regulations may apply. Check individual state requirements.

**SECTION 16: OTHER**

**Disclaimer:** The information presented herein is based on available data from reliable sources and is correct to the best of WinField Solutions' knowledge. WinField Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

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**Sections Revised:** All