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**Section I: Product Identification**

CATALOG NUMBER: 5220, 5222	PRODUCT NAME: Diquat/Paraquat
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**Section II - Hazardous Ingredients/Identity Information**

Chemical Name	CAS Reg. No.	OSHA PEL (TWA)	% Composition*
Acetone	67-64-1	750ppm	>99%
Diquat Dibromide	85-00-7	0.5mg/m <sup>3</sup>	<0.1%
Paraquat	4685-14-7	0.5mg/m <sup>3</sup>	

**Section III - Physical/Chemical Characteristics of Hazardous Ingredients**

BOILING POINT: 56 C (132 F) @ 760 mm Hg	SPECIFIC GRAVITY: 0.79 (water=1)	
VAPOR PRESSURE: 181 (20 C)	SOLUBILITY IN WATER: Complete	APPEARANCE/ODOR: Clear, colorless liquid, sweet odor (acetone).

**Section IV - Fire and Explosion Hazard Data**

FLASH POINT (Method used): -18 C (-2 F)	AUTO IGNITION TEMPERATURE: 464 C (869 F)	FLAMMABLE LIMITS	LEL 2.5%	UEL 13%
EXTINGUISHING MEDIA: Use alcohol foam, dry chemical or carbon dioxide (water may be ineffective). Use extinguisher media appropriate for surrounding fire.				
SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire exposed containers cool.				
UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors may flow along surfaces to distant ignition sources and flash back. Closed containers exposed to heat may explode. Contact with strong oxidizers may cause a fire.				

**Section V - Reactivity Data**

STABILITY:	Unstable <input type="checkbox"/>	Stable <input checked="" type="checkbox"/>	Conditions to Avoid: Heat, flame, other sources of ignition.
INCOMPATIBILITY (Materials to avoid): Strong oxidizing agents, strong bases, halogen acids and halogen compounds, caustics, amines and ammonia, chlorine and chlorine compounds, strong acids esp. sulfuric and nitric.			
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, toxic fumes of chlorine.			
HAZARDOUS POLYMERIZATION:	May Occur <input type="checkbox"/>	Will Not Occur <input checked="" type="checkbox"/>	Conditions to Avoid: None Known

**Section VI - Health Hazard Data**

<b>ROUTES OF ENTRY</b>	Inhalation? YES	Skin? YES	Ingestion? YES
HEALTH HAZARDS (Acute and Chronic): ACUTE: Irritation of the nose and throat. CHRONIC: Kidney and liver damage.			
COMPONENTS LISTED AS CARCINOGENS OR POTENTIAL CARCINOGENS: Total of PAH is less than 1%. Some are on the IARC list.			
SIGNS AND SYMPTOMS OF EXPOSURE: Irritation of skin, eyes, nose and throat. Headache, dizziness, vomiting, nausea, central nervous system depression, low blood pressure and respiratory failure. Prolonged contact may cause dermatitis.			

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Skin and eye disorders, chronic respiratory disease.

EMERGENCY AND FIRST AID PROCEDURES: Seek medical assistance for treatment, observation and support if necessary. EYE CONTACT: Flush with water, seek medical attention. SKIN CONTACT: Wash with soap and water, use protective creams. INHALATION: Remove to fresh air, if not breathing give artificial respiration. If breathing is difficult give oxygen and obtain medical assistance. INGESTION: Obtain medical assistance if swallowed. If conscious give large amounts of water and induce vomiting.

## Section VII - Precautions for Safe Handling and Use

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Diluted standard can be absorbed with sand or other non-combustible absorbent material and placed into a container for later disposal. Sample solutions should be absorbed with charcoal or other organic absorbent and incinerated. Flush area with water.

WASTE DISPOSAL METHOD: Dispose in accordance with all applicable federal, state and local regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep container tightly closed. Store in a cool, dry, well ventilated flammable liquid storage area. Isolate from incompatible materials.

OTHER PRECAUTIONS\* Do not heat or evaporate analytical standards to dryness.

## Section VIII - Control Measures

RESPIRATORY PROTECTION (Please specify): Respiratory protection required if airborne concentrations exceeds PEL (750 ppm). At concentrations up to 5000 ppm a chemical cartridge respirator with organic vapor cartridge is recommended. Above this level, a self-contained breathing apparatus is recommended. (20,000 is immediately dangerous to life or health).

VENTILATION: Local exhaust

PROTECTIVE GLOVES: Butyl, neoprene, latex, or rubber gloves.

EYE PROTECTION: Safety glasses or goggles.

OTHER PROTECTIVE EQUIPMENT: Impervious Clothing.

EMERGENCY WASH FACILITIES: Maintain eye wash and quick drench showers in work area.

The information stated in this Material Safety Data Sheet (MSDS) is believed to be correct on the date of publication and must not be considered all conclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. Persons not specifically and properly trained should not handle this chemical or its container. This MSDS is provided without any warranty expressed or implied, including merchantability or fitness for any particular purpose.

This product is furnished for laboratory use ONLY! Our standards may not be used as drugs, cosmetics, agricultural or pesticidal products, food additives or as house hold chemicals.

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