



**ELECTRO-TECHNIC PRODUCTS INC.**

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MATERIAL SAFETY DATA SHEET

IDENTITY: **Spectrum Tube, Chlorine (ETP Product No. 20302)**

SECTION I

MANUFACTURER: **Electro-Technic Products, Inc.** EMERGENCY TELEPHONE NUMBER **773-561-2349**

ADDRESS: **4642 N. Ravenswood Ave. Chicago, IL 60640-4510** TELEPHONE FOR INFORMATION **773-561-2349**  
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SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENT	OSHA PEL	ACGIH TWA	ACGIH STEL	% (OPT)
<b>Chlorine (Cl<sub>2</sub>)</b>	<b>1 ppm</b>	<b>1 ppm</b>	<b>3 ppm</b>	

SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT (deg C) **-34.05 °C** SPECIFIC VOLUME (@1 ATM, 21.1 °C) **0.337 m<sup>3</sup>/kg**

VAPOR PRESSURE **590 kPa (gauge) @21.1 °C** MELTING POINT (deg C) **-101 °C**

VAPOR DENSITY (AIR=1) **2.473 @ 1 ATM, 20 °C** EVAPORATION RATE (BUTYL ACETATE=1) **Not Available**

SOLUBILITY IN WATER **4.61 cm<sup>3</sup>/1 cm water, 1 ATM, 0 °C** APPEARANCE AND ODOR **Green-yellow gas/sharp odor**

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT (METHOD USED) **Does not apply, nonflammable** FLAMMABLE LIMITS LEL UEL

EXTINGUISHING MEDIA **Does not apply**

SPECIAL FIRE FIGHTING PROCEDURES **None**

UNUSUAL FIRE AND EXPLOSION HAZARDS **None**

<b>SECTION V - REACTIVITY DATA</b>				<b>Spectrum Tube, Chlorine</b>
STABLE (Y/N)	<b>Y</b>	CONDITIONS TO AVOID	<b>Avoid reducing agents</b>	
INCOMPATIBILITY	(MATERIALS TO AVOID)		<b>Reducing agents</b>	
HAZARDOUS DECOMPOSITION PRODUCTS	<b>None</b>			
HAZARDOUS POLYMERIZATION (Y/N)	<b>N</b>	CONDITIONS TO AVOID	<b>None</b>	
<b>SECTION VI - HEALTH HAZARD DATA</b>				
ROUTES OF ENTRY	INHALATION?	SKIN?	INGESTION?	
	<b>Yes</b>	<b>Yes</b>	<b>No</b>	
HEALTH HAZARDS (ACUTE AND CHRONIC)	<b>Irritation of eyes, throat</b>			
CARCINOGENICITY	NTP	IARC MONOGRAPHS	OHTA REGULATED	
<b>Unknown</b>	<b>No</b>	<b>No</b>	<b>No</b>	
SIGNS AND SYMPTOMS OF EXPOSURE	<b>Odor; eye, throat irritation</b>			
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE	<b>None at very small concentrations of chlorine gas in the tube</b>			
EMERGENCY AND FIRST AID PROCEDURES	<b>Move person to fresh air</b>			
<b>SECTION V11 - PRECAUTIONS FOR SAFE HANDLING AND USE</b>				
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	<b>Clean up broken glass</b>			
WASTE DISPOSAL METHOD	<b>Standard</b>			
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	<b>Sharp glass fragments</b>			
OTHER PRECAUTIONS	<b>None</b>			
<b>SECTION VIII - CONTROL MEASURES</b>				
RESPIRATORY PROTECTION (TYPE)	<b>None</b>			
VENTILATION: LOCAL EXHAUST	<b>If TLV exceeded</b>		SPECIAL	
MECHANICAL	<b>None</b>		OTHER <b>None</b>	
PROTECTIVE GLOVES	<b>No</b>	EYE PROTECTION	<b>Safety goggles</b>	
OTHER PROTECTIVE EQUIPMENT	<b>None</b>			
WORK/HYGIENIC PRACTICES	<b>Normal laboratory procedures</b>			