MATERIAL SAFETY DATA SHEET
29 CFR 1910.1200 OSHA Hazard
Communication Rule Format
Chem-Tel 24 Hour Emergency # 1-800-255-3924

MINE SAFETY APPLIANCES COMPANY
P.O. Box 426
Pittsburgh, PA 15230
PHONE (412) 967-3000

This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Section 313 chemicals are identified below under APPLICABLE CHEMICAL CONTENTS.

This product contains Potassium Hydroxide, a substance subject to the Pennsylvania Worker Community Right-To-Know Act.

CHEMICAL IDENTITY

LABEL IDENTITY - MSA P/N 454226 Toxgard Test Solution, Hydrogen Cyanide

CHEMICAL NAME - Potassium Cyanide, Potassium Hydroxide Solution

ADDITIONAL IDENTITIES - None

FORMULA - KCN + KOH in H_2O

APPLICABLE CHEMICAL CONTENTS

Product bottle contains 12-13 Gms. Total

	%	TWA
Potassium Cyanide (CAS 151-50-8) (OSHA 1999)	1.25	5 mg/M^3
Potassium Hydroxide (CAS 1310-58-3) (ACGIH 1999)	0.6	2 mg/M^3 Ceiling

NOTE: Bottle contains 5 milliliters of 1.25% KCN and 0.6% KOH in water solution 62.5 mg KCN and 31.5 mg KOH total.

Title III Section 313 Chemical: Potassium Cyanide (CAS No. 151-50-8)

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR -	Colorless liquid		
PERCENT VOLATILE BY VOLUME -	98% (H_20)	SPECIFIC GRAVITY (H_2O = 1) -	>1
VAPOR PRESSURE -	N/A	BOILING POINT -	212°F
VAPOR DENSITY (AIR = 1) -	N/A	SOLUBILITY IN WATER -	Complete

PHYSICAL HAZARD INFORMATION

PHYSICAL HAZARD - Reactive with acids. See next item.

CONDITIONS OR MATERIALS TO AVOID - Avoid acids. Acids react with KCN and release highly toxic hydrogen cyanide gas. Avoid oxidizers.

FLASH POINT - N/A Not Flammable

EXTINGUISHING MEDIA - N/A

SPECIAL FIRE FIGHTING PROCEDURES - N/A

UNUSUAL FIRE & EXPLOSION HAZARDS - N/A

HEALTH HAZARDS

HEALTH HAZARDS -	Highly toxic, Corrosive. Cyanide: Human oral LDlo 2.86 MG/KG Rat oral LD50 10 MG/KG Potassium Hydroxide: Rat oral LD50 365 MG/KG
SIGNS AND SYMPTOMS OF EXPOSURE -	Weakness, headache, confusion, vomiting, convulsions, unconsciousness. Eye, nose, skin irritation.
PRIMARY ROUTES OF ENTRY -	Ingestion, skin absorption, inhalation.
TARGET ORGANS -	Cyanides block utilization of delivered oxygen, resulting in rapid cellular asphyxiation.
MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE -	No Information
EXPOSURE LIMITS-	TLV Cyanides 5 MG/M^3 TLV KOH 2 MG/M^3 OSHA PEL 5 MG/M^3
CARCINOGENICITY DATA -	Not listed in RTECS.
MUTAGENICITY DATE-	RTECS reference.
REPRODUCTIVE EFFECTS DATA-	RTECS reference.
EMERGENCY & FIRST AID PROCEDURES -	Cyanide poisoning is rapid and the victim must quickly receive emergency treatment by a physician. The lethal dose for a 150 pound (70 KG) person is reportedly as low as 200 MG (KCN). Lesser amounts cause serious illness and symptomatic weakness. Headache, confusion, vomiting, and convulsions. Ingestion also causes irritation and corrosion of the digestive tract. Skin contact can cause irritation and absorption of toxic quantities of cyanide.

NOTE: Antidote kits for physician use are available from the Eli Lilly company as Cyanide Antidote Package M-76. If either physicians, registered nurses, or trained emergency medical technicians are readily available and close by the scene of the accident, the Eli Lilly treatment kit can be crucial for the appropriate specific treatment that should follow the first aid measures.

FIRST AID

Call physician immediately and administer first aid. Cyanide Ingestion: Apply artificial respiration if needed. If victim is conscious, give orally 1 pint of 1% sodium thiosulfate solution and encourage vomiting, Victims head should be held low while vomiting occurs to prevent aspiration of vomitus to lungs. Break an amyl nitrite pearl in a cloth and hold lightly near victim's nose and mouth for 15 seconds, repeating 5 times at 15 second intervals. After 5 minutes, repeat the procedure with a fresh pearl until three or four have been used. Person giving first aid should avoid breathing amyl nitrite vapors. Amyl nitrate should not be over two years old.

CYANIDE SKIN CONTACT

Only 5 ML of KCN solution (62.5 MG KCN) is present in a single product bottle and accidental over exposure by this route seems unlikely. Should a bottle of Toxgard HCN Test solution somehow be spilled onto a person, remove contaminated clothing and immediately wash affected areas with soap and water. Consult a physician immediately. Break an amyl nitrite pearl in a cloth and hold lightly near victim's nose and mouth for 15 seconds, repeating 5 times at 15 second intervals. After 5 minutes, repeat the procedure with a fresh pearl until three or

four have been used. Person giving first aid should avoid breathing amyl nitrite vapors. Amyl nitrite should not be over two years old.

CYANIDE INHALATION

KCN solution is not volatile and inhalation exposure in unlikely unless the product contact acid and releases HCN. If all available cyanide is converted to HCN, only 2.1 ppm would be present in a confined cubic meter of air. The TLV, 10 ppm, would be present in a confined volume of 210 liters.

If over exposure somehow occurs, call a physician immediately and administer first aid. Apply artificial respiration if needed. Break an amyl nitrite pearl in a cloth and hold lightly near victim's nose and mouth for 15 seconds, repeating 5 times at 15 second intervals. After 5 minutes, repeat the procedure with a fresh pearl until three or four have been used. Person giving first aid should avoid breathing amyl nitrite vapors. Amyl nitrite should not be over two years old.

SAFE HANDLING AND USE

HYGIENIC PRACTICES -	Use of rubber gloves is recommended. As cyanides are absorbed through intact skin, contact with even dilute solutions should be avoided. Wash hands with soap and water after use.
PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT -	Wear rubber gloves when handling instrument parts exposed to KCN.
PROCEDURE FOR SPILL OR LEAK CLEANUP-	Notify safety personnel. Wear protective equipment so as to avoid all contact with spilled solution. Maximum spill possible from a single bottle is 5 ML. Cover spill with strong calcium hypochlorite solution and flush to drain with excess water.
STORAGE -	Store in a cool, dry place, away from incompatible materials.
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WASTE DISPOSAL -	Not applicable

CONTROL MEASURES

PERSONAL PROTECTIVE EQUIPMENT -	Use of rubber gloves is recommended.
ENGINEERING CONTROLS-	None
WORK PRACTICES -	Follow instructions in Toxgard Instrument Manual.
DATE OF PREPARATION -	Rev. 5, June 1999