Technical Information
Material Safety Data Sheet

SDT-13M_04E

SECTION 1	CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
MANUFACTURE'S NAME	**TELEPHONE NUMBER**	**FACSIMILE NUMBER**
GASTEC CORPORATION	+81-467-79-3910	+81-467-79-3979

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REFERENCE NUMBER	**DATE PREPARED**
SDT-13M_04E	April 16, 2009

PRODUCT NAME Gas Detector Tube
Carbon Disulfide Detector Tube No.13M

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

Pretreatment Tube: Porous Silica Gel (0.9g) impregnated with Fuming Sulfuric Acid (30-35%), Chromic Anhydride (<1%) and Selenium compound (<1%) in a glass tube.
Detector Tube: Porous Silica Gel (0.3g) impregnated with Barium Chloride (<5%) and Polyhydric Alcohol (5-10%) in a glass tube.

SECTION 3 HAZARDOUS IDENTIFICATION

Not applicable

SECTION 4 FIRST AID MEASURES

Eye contact:	Wash eyes immediately with plenty of water for at least 15 minutes and see a doctor.
Skin contact:	Wash affected area immediately with soap and plenty of water.
Inhalation:	Not applicable
Ingestion:	Rinse mouth immediately and see a doctor.

SECTION 5 FIRE FIGHTING MEASURES

None

SECTION 6 ACCIDENTAL RELEASE MEASURES

Not applicable

SECTION 7 HANDLING AND STORAGE

When breaking off the tube ends, keep away from eyes.
Broken glass tubes should not be picked up with bare hands.
Tubes should be stored in a cool and dark place.

SECTION 8 EXPOSURE PROTECTION

Not applicable

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Polyhydric Alcohol:

Flash point:	116℃ (tag sealing)
Autoignition point:	402℃

Barium Compounds, Selenium compound, Fuming sulfuric acid:

Flash point:	Not available
Autoignition point:	Not available

SECTION 10 STABILITY AND REACTIVITY

Polyhydric Alcohol:

Stability:	Stable. Hygroscopic
Reactivity:	May cause explosion in contact with oxidant.
Condition to avoid:	Sunlight, Heat, Open flames, High temperature, Sparks, Static charge, Other ignition sources
Hazardous decomposition product:	Carbon monoxide may be formed.

Selenium compound:

Stability:	Highly hygroscopic. Toxic fume is emitted when heated extremely.
Reactivity:	Not available
Condition to avoid:	Sunlight, Heat, Moisture
Hazardous decomposition product:	Selenium fume may be formed.

Fuming sulfuric acid:

Stability:	White smoke poisonous gas (sulfur trioxide) is emitted in air.
Reactivity:	React violently with water to evolve heat. Diluted sulfuric acid reacts with metals such as iron to form flammable hydrogen gas may cause fire and explosion. May cause ignition in contact with organic materials.
Condition to avoid:	Sunlight, Heat, Moisture
Hazardous decomposition product:	Sulfur oxides may be formed.

Barium compounds:

Stability:	Stable.
Reactivity:	Contact with acid or heat to form toxic hydrogen chloride. React with sulfate to form water-insoluble Barium Sulfate.
Condition to avoid:	Sunlight, Heat
Hazardous decomposition product:	Carbon monoxide, barium compounds or halides may be formed.

SECTION 11 TOXICOLOGICAL INFORMATION

Polyhydric Alcohol:

Acute toxicity data:	TCL0: (ihl, human): 10000mg/m^3; watering eye, cough, breathing problem LD50: (orl, rat): 4700mg/kg LD50: (sc, rat): 2800mg/kg LD50: (skn, rabbit): 9530mg/kg
Irritation data:	Skin; rabbit; 555mg; open system; minor Eye; rabbit; 100mg/lh; minor
Mutagenicity:	DNA; inhibition; human; lymphocyte; 320mmol/L
Teratogenicity:	TDL0: (orl, mouse): 7500mg/kg; (6-15 D preg) embryotoxicity; abnormal musculoskeletal
Carcinogen:	OSHA: Not listed NTP: Not listed IARC: Not listed

Selenium compound:

Acute toxicity data:	LD50 (skn, rabbit): 4mg/kg (RTECS) LCLo (ihl, rat): 60mg/m3 (RTECS) LD50 (orl, rat): 68100 μ g/kg (RTECS) LD50 (orl, mouse): 23300 μ g/kg (RTECS)
Irritation data:	Not available
Chronic toxicity/ Long-term toxicity:	Repetition or long term skin contact may cause dermatitides.
Mutagenicity:	Not available
Carcinogen:	Not available

Fuming sulfuric acid:

Acute toxicity data:	LC50 (ihl, rat): 347ppm/1H (RTECS)
Irritation data:	as Sulfuric acid; Eye; rabbit; 250 μ g; severe (RTECS)
Mutagenicity:	Not available
Carcinogen:	IARC: Human carcinogen (Group 1) ACGIH: as Sulfuric acid; Suspected human carcinogen (A2)

Barium compounds

Acute toxicity data:	LD50: (orl, rat): 118mg/kg (RTECS) LDLo: (iv, rat): 20mg/kg (RTECS) LD50: (orl, mouse): 150mg/kg (RTECS) LD50: (ip, mouse): 56.2mg/kg (RTECS) LD50: (iv, mouse): 21mg/kg (RTECS) LD50: (orl, rabbit): 236mg/kg (RTECS) LDLo: (skn, rabbit): 96mg/kg (RTECS) LDLo: (iv, rabbit): 12mg/kg (RTECS)
Irritation data:	Not available
Chronic toxicity / Long –term toxicity:	Barium ion irritate to all muscles continuously may cause aberrant muscle contraction or cardiac arrest also cause vomiting, diarrhea and irritate to spinal chord.
Mutagenicity:	Not available
Carcinogen:	Not available

SECTION 12 ECOLOGICAL INFORMATION

Not available

SECTION 13 DISPOSAL CONSIDERATION

The pretreatment tube contains 2.60mg of hexavalent chromium and 5.69mg of selenium.

Dispose of in accordance with all applicable laws and regulations. (Contact local environmental agency for specific rules.)

SECTION 14 TRANSPORT INFORMATION

Breakage of tubes caused by drops, high pressure or bends should be avoided.

SECTION 15 REGULATORY INFORMATION

Not applicable

SECTION 16 OTHER INFORMATION

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.