
PRODUCT NAME: CALIBRATION GAS, H2S 4400-4600 PPM IN N2

PRODUCT NO. 06-1923 **MSDS NO.** 99-0065 **REV. NO.** 2
MSDS DATE OF PREPARATION: 12-13-90
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INGREDIENTS

COMPONENT	CAS NO.	%
HYDROGEN SULFIDE (H2S)	7783-06-4	.44-.46
NITROGEN (N2)	7727-37-9	BALANCE

EXPOSURE LIMITS

COMPONENT	OSHA PEL	ACGIH TLV	STEL
HYDROGEN SULFIDE (H2S)	10 PPM	10 PPM	15 PPM
NITROGEN (N2)	NONE EST.	ASPHYXIAN	NONE EST.

PHYSICAL AND CHEMICAL DATA

BOILING POINT: -195.8 (N2) **VAPOR PRESSURE:** N/A (GAS)
MELTING POINT: -209.9 (N2) **VAPOR DENSITY:** 0.967
(AIR=1)
SPECIFIC GRAVITY: 0.8 (N2) **PERCENT VOLATILES:** 100
pH: N/A **WATER SOLUBILITY:** 1.6% (N2)
COEFFICIENT OF WATER/OIL: NOT AVAILABLE
APPEARANCE AND ODOR: COLORLESS, COMPRESSED GAS IN CYLINDERS WITH
AN OFFENSIVE ROTTEN EGG ODOR.
ODOR THRESHOLD: 0.03 PPM, DEADENS SENSE OF SMELL IN A FEW MIN.;
IMMED. >200 PPM

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A (GAS) **TEST METHOD:** N/A
FLAMMABLE LIMITS: **LEL:** H2S - 4.3% **UEL:** H2S - 45%
AUTOIGNITION TEMPERATURE: NOT AVAILABLE

EXTINGUISHING MEDIA: THIS GAS IS NOT FLAMMABLE. COOL EXPOSED
CONTAINERS WITH WATER.

SPECIAL FIREFIGHTING PROCEDURES: FIREFIGHTERS SHOULD WEAR NIOSH
APPROVED POSITIVE PRESSURE SELF CONTAINED BREATHING APPARATUS AND
FULL PROTECTIVE CLOTHING. USE SHIELDING TO PROTECT FROM CYLINDER
EXPLOSION.

UNUSUAL FIRE AND EXPLOSION HAZARDS: THIS MIXTURE IS BELOW THE LEL
OF HYDROGEN SULFIDE AND IS NON-FLAMMABLE. GAS CYLINDERS EXPOSED TO
HEAT OR FLAME MAY VENT RAPIDLY OR EXPLODE.

REACTIVITY HAZARDS

STABILITY: STABLE
CONDITIONS TO AVOID: AVOID HEAT OR FLAMES.
INCOMPATIBILITY: NONE KNOWN.
HAZARDOUS DECOMPOSITION PRODUCTS: NONE KNOWN.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: N/A

HEALTH HAZARD DATA

ACUTE EFFECTS OF OVEREXPOSURE

EYE: MAY CAUSE SEVERE IRRITATION WITH OCULAR PAIN, CORNEAL OPACITY.

SKIN: MAY CAUSE SEVERE IRRITATION, PAIN, SWELLING. MAY BE TOXIC BY ABSORPTION.

INHALATION: MAY CAUSE SEVERE RESPIRATORY IRRITATION, HEADACHE, NAUSEA, VOMITING, CYANOSIS. EXPOSURES ABOVE 500 PPM MAY CAUSE RESPIRATORY PARALYSIS AND DEATH.

INGESTION: NOT APPLICABLE. THIS MATERIAL IS A GAS.

CHRONIC EFFECTS OF OVEREXPOSURE: NONE KNOWN.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: INDIVIDUALS WITH PRE-EXISTING RESPIRATORY DISEASE MAY BE AT INCREASED RISK FROM EXPOSURE.

TOXICITY DATA: HYDROGEN SULFIDE INHALATION LC50 IN RATS: 444 PPM.

CARCINOGENICITY: NONE OF THE COMPONENTS IS LISTED AS A CARCINOGEN OR SUSPECTED CARCINOGEN BY IARC, NTP OR OSHA.

IRRITANCY: THIS MATERIAL MAY CAUSE EYE, SKIN AND RESPIRATORY IRRITATION.

SENSITIZATION: NONE OF THE COMPONENTS HAVE BEEN REPORTED TO CAUSE SENSITIZATION IN ANIMALS OR HUMANS.

REPRODUCTIVE TOXICITY: NONE OF THE COMPONENTS HAVE BEEN REPORTED TO CAUSE REPRODUCTIVE TOXICITY IN ANIMALS OR HUMANS.

TERATOGENICITY: NONE OF THE COMPONENTS HAVE BEEN REPORTED TO CAUSE TERATOGENICITY IN ANIMALS OR HUMANS.

MUTAGENICITY: NONE OF THE COMPONENTS HAVE BEEN FOUND TO BE MUTAGENIC.

SYNERGISTIC EFFECTS: THERE ARE NO CHEMICALS KNOWN TO CAUSE ADDITIVE ADVERSE HEALTH EFFECTS.

FIRST AID

EYE: FLUSH EYES WITH COPIOUS AMOUNTS OF WATER, 15 MINUTES. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

SKIN: WASH WELL WITH SOAP AND WATER, GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR IF SYSTEMIC EFFECTS ARE NOTED SUCH AS HEADACHE, DIZZINESS, OR NAUSEA.

INHALATION: CAUTION, RESCUERS REQUIRE SAFETY EQUIPMENT AND SCBA. REMOVE VICTIM TO FRESH AIR, GIVE ARTIFICIAL RESPIRATION IF NEEDED. GET IMMEDIATE MEDICAL ATTENTION

INGESTION: NONE NEEDED

SPILL HANDLING - DISPOSAL - STORAGE

SPILL HANDLING: EVACUATE AREA, WEAR POSITIVE PRESSURE SCBA AND MOVE LEAKING CYLINDER TO HOOD OR OUTDOOR LOCATION. VENTILATE AREA, RELEASES MAY BE REPORTABLE UNDER CERCLA AND SARA 302 REGULATIONS.

DISPOSAL: DISPOSE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. DO NOT INCINERATE CYLINDER.

RCRA HAZARDOUS WASTE CODE: U135

STORAGE: DO NOT STORE CYLINDERS NEAR HEAT OR OPEN FLAME. EXPOSURE TO TEMPERATURES ABOVE 125F MAY CAUSE RUPTURE. SECURE CYLINDERS-DO NOT DROP.

CONTROL MEASURES

VENTILATION: LOCAL EXHAUST VENTILATION REQUIRED TO ASSURE THAT THE TLV FOR HYDROGEN SULFIDE IS NOT EXCEEDED.

RESPIRATORY PROTECTION: WEAR AIR SUPPLIED (WITH ESCAPE BOTTLE IF CONCENTRATION IS ABOVE IMMEDIATELY DANGEROUS TO LIFE OR HEALTH LEVEL - 200 PPM) OR SELF CONTAINED BREATHING APPARATUS WHERE HYDROGEN SULFIDE TLV IS EXCEEDED. SELECTION OF RESPIRATORY PROTECTION DEPENDS ON CONTAMINANT TYPE, FORM AND CONCENTRATION. SELECT IN ACCORDANCE WITH OSHA 1910.134 AND GOOD INDUSTRIAL HYGIENE PRACTICE.

GLOVES: NEOPRENE OR BUTYL RUBBER GLOVES FOR USE. LEATHER GLOVES RECOMMENDED FOR CYLINDER HANDLING.

EYE PROTECTION: CHEMICAL SAFETY GOGGLES AND FACE SHIELD RECOMMENDED. DO NOT WEAR CONTACT LENSES WHEN HANDLING H2S.

OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWER AND EYE WASH FACILITY IN THE WORK AREA. SINCE ODOR CANNOT PROVIDE WARNING OF DANGEROUS LEVELS DUE TO OLFACATORY FATIGUE, A DETECTION AND ALARM SYSTEM IS RECOMMENDED.

SPECIAL PRECAUTIONS AND WORK PRACTICES

WORK PRACTICES: USE ONLY WITH ADEQUATE VENTILATION. DO NOT BREATHE GAS. PREVENT EYE AND SKIN CONTACT WITH GAS. CONTENTS UNDER PRESSURE. DO NOT PUNCTURE. NEVER THROW CONTAINER INTO FIRE OR INCINERATOR. KEEP CYLINDERS SECURED. DO NOT DROP OR DAMAGE.

SPECIAL PRECAUTIONS: KEEP CYLINDERS AWAY FROM HEAT AND FLAMES. KEEP VALVE PROTECTION CAP IN PLACE UNLESS THE CYLINDER IS SECURED AND READY FOR USE. NO PART OF THE CYLINDER SHOULD BE SUBJECTED TO TEMPERATURES ABOVE 125F.

SPECIAL SHIPPING: PROTECT FROM HEAT AND PHYSICAL DAMAGE.

REGULATORY DATA

SARA 311/312: HAZARD CATEGORIES FOR SARA SECTION 311/312 REPORTING: ACUTE HEALTH, SUDDEN RELEASE OF PRESSURE

SARA 313: THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS SUBJECT TO ANNUAL RELEASE REPORTING REQUIREMENTS UNDER THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT: NONE

CALIFORNIA PROPOSITION 65: THIS PRODUCT CONTAINS THE FOLLOWING SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND/OR REPRODUCTIVE HARM: NONE

TOXIC SUBSTANCE CONTROL ACT: ALL OF THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE EPA TSCA INVENTORY.

EUROPEAN INVENTORY OF COMMERCIAL CHEMICAL SUBSTANCES: ALL OF THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE EINECS INVENTORY.

DOT HAZARD CLASSIFICATION: POISON A, POISON GAS NOS, NA 1955

NFPA RATING HEALTH: 3 FIRE: 0 REACTIVITY: 0