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## **Material Safety Data Sheet**

Transportation Emergency: 1-800-451-8346

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### **SECTION 1. ----- CHEMICAL IDENTIFICATION-----**

CATALOG #: 3H32-1-P4  
NAME: 1-(HEX-1-YL)PIPERAZINE

### **SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----**

CAS NUMBER: 51619-55-7  
MOLECULAR FORMULA:  $C_{10}H_{22}N_2$   
MOLECULAR WEIGHT: 170.3

### **SECTION 3. ----- HAZARDS IDENTIFICATION -----**

#### LABEL PRECAUTIONARY STATEMENTS

FLAMMABLE LIQUID.  
IRRITANT.  
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

### **SECTION 4. ----- FIRST-AID MEASURES-----**

#### ORAL EXPOSURE

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

#### INHALATION EXPOSURE

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

#### DERMAL EXPOSURE

IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.

#### EYE EXPOSURE

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.

**SECTION 5. ----- FIRE FIGHTING MEASURES -----**

**FLASH POINT**

81.4 °C - CALCULATED.

**EXTINGUISHING MEDIA**

SUITABLE: FOR SMALL (INCIPIENT) FIRES, USE MEDIA SUCH AS "ALCOHOL" FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. FOR LARGE FIRES, APPLY WATER FROM AS FAR AS POSSIBLE. USE VERY LARGE QUANTITIES (FLOODING) OF WATER APPLIED AS A MIST OR SPRAY; SOLID STREAMS OF WATER MAY BE INEFFECTIVE. COOL ALL AFFECTED CONTAINERS WITH FLOODING QUANTITIES OF WATER.

**FIREFIGHTING**

PROTECTIVE EQUIPMENT: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

SPECIFIC HAZARD(S): EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

**SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----**

**PERSONAL PROTECTION**

AVOID BREATHING VAPOR MIST, OR GAS. ENSURE ADEQYATE VENTILATION. WEAR PROTECTIVE EQUIPMENT INCLUDING RUBBER GLOVES, AND EYE PROTECTION. KEEP UNPROTECTED PERSONS AWAY.

REMOVE ALL SOURCES OF IGNITION. BEWARE OF VAPORS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPORS CAN ACCUMULATE IN LOW AREAS.

**ENVIRONMENTAL PROTECTION**

PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. TAKE PRECAUTIONS TO ENSURE PRODUCT DOES NOT CONTAMINATE THE GROUND OR ENTER THE DRAINAGE SYSTEM.

**COLLECTION**

CONTAIN SPILLAGE, AND THEN COLLECT WITH AN ELECTRICALLY PROTECTED VACUUM CLEANER OR BY WET-BRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS.

**SECTION 7. ----- HANDLING AND STORAGE-----**

**HANDLING**

USER EXPOSURE: AVOID INHALATION. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE.

USE EXPLOSION-PROOF EQUIPMENT. KEEP AWAY FROM SOURCES OF IGNITION.

TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE.

**STORAGE**

SUITABLE: TIGHTLY CLOSED CONTAINERS IN A DRY AND WELL-VENTILATED PLACE.

CONTAINERS WHICH ARE OPENED MUST BE CAREFULLY RESEALED AND KEPT UPRIGHT TO PREVENT LEAKAGE. STORE IN COOL, DRY PLACE. AVOID DIRECT SUNLIGHT. AIR SENSITIVE. STORE UNDER INERT GAS.

## **SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----**

### **ENGINEERING CONTROLS**

SAFETY SHOWER AND EYE BATH. MECHANICAL EXHAUST REQUIRED.

### **PERSONAL PROTECTIVE EQUIPMENT**

RESPIRATORY: USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU). WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULL-FACE RESPIRATOR WITH MULTI-PURPOSE COMBINATION (US) OR TYPE ABEK (EN 14387) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR.

HAND: COMPATIBLE CHEMICAL-RESISTANT GLOVES.

EYE: CHEMICAL SAFETY GOGGLES.

### **GENERAL HYGIENE MEASURES**

WASH THOROUGHLY AFTER HANDLING. WASH CONTAMINATED CLOTHING BEFORE REUSE.

## **SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----**

### **APPEARANCE AND ODOR**

CLEAR LIQUID

### **PHYSICAL PROPERTIES**

BOILING POINT: 98 - 103 °C @ 10 mmHg

## **SECTION 10. -----STABILITY AND REACTIVITY-----**

### **STABILITY**

STABLE: STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

MATERIALS TO AVOID: STRONG OXIDIZING AGENTS, STRONG ACIDS AND BASES, STRONG REDUCING AGENTS.

CONDITIONS TO AVOID: HEAT, FLAMES AND SPARKS, EXTREMES OF TEMPERATURE, MOISTURE AND DIRECT SUNLIGHT.

### **HAZARDOUS DECOMPOSITION PRODUCTS**

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON OXIDES, NITROGEN OXIDES.

### **HAZARDOUS POLYMERIZATION**

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

## **SECTION 11. ----- TOXICOLOGICAL INFORMATION -----**

### **ROUTE OF EXPOSURE**

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES IRRITATION OF THE RESPIRATORY TRACT.

INGESTION: MAY BE HARMFUL IF SWALLOWED.

SKIN: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION.

EYES: CAUSES EYE IRRITATION.

### **SIGNS AND SYMPTOMS OF EXPOSURE**

TO THE BEST OF OUR KNOWLEDGE, THE TOXICOLOGICAL PROPERTIES OF THIS PRODUCT HAVE NOT BEEN FULLY DETERMINED.

**SECTION 12. ----- ECOLOGICAL INFORMATION -----**

DATA NOT YET AVAILABLE.

**SECTION 13. ----- DISPOSAL CONSIDERATIONS -----**

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION  
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN  
IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND  
SCRUBBER. OBSERVE ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL  
REGULATIONS.

**SECTION 14. ----- TRANSPORT INFORMATION -----**

UNRESTRICTED

**SECTION 15. ----- REGULATORY INFORMATION -----**

EU ADDITIONAL CLASSIFICATION  
SYMBOL OF DANGER: Xi  
INDICATION OF DANGER: IRRITANT.  
RISK STATEMENTS: 36/37/38  
SAFETY STATEMENTS: 23-24/25-26-33-36/37/39-45  
UNITED STATES REGULATORY INFORMATION  
TSCA: NOT LISTED ON TSCA INVENTORY; FOR R&D USE ONLY

**SECTION 16. ----- OTHER INFORMATION -----**

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO  
BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SYNQUEST LABS, INC. SHALL  
NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING  
OR FROM CONTACT WITH THE ABOVE PRODUCT.