

# *Chem-Impex International Inc.*

---

Tel: (630) 766-2112  
E-mail: [sales@chemimpex.com](mailto:sales@chemimpex.com)  
**Shipping and Correspondence:**  
935 Dillon Drive  
Wood Dale, IL 60191 USA

Fax: (630) 766-2218  
Web site: [www.chemimpex.com](http://www.chemimpex.com)  
**Manufacturing site:**  
825 Dillon Drive  
Wood Dale, IL 60191 USA

## SAFETY DATA SHEET

---

### SECTION 1. CHEMICAL IDENTIFICATION

---

CATALOG #: 26857

NAME: 1,3,4-Thiadiazole-2,5-dithiol

SYNONYMS: 2,5-Dimercaptothiadiazole  
2,5-Dimercapto-1,3,4-thiadiazole  
Bismuthiol

24 HOUR EMERGENCY TELEPHONE: (800) 535-5053(USA)  
352-323-3500 (INTERNATIONAL)

TO REQUEST AN MSDS: (800) 869-9290

CUSTOMER SERVICE: (630) 766-2112

### SECTION 2. HAZARDS IDENTIFICATION

---

**CLASSIFICATION OF THE SUBSTANCE OR MIXTURE**  
**GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)**  
EYE IRRITATION (CATEGORY 2A), H319

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS  
PICTOGRAM**



SIGNAL WORD            WARNING

**HAZARD STATEMENT(S)**

H319                    CAUSES SERIOUS EYE IRRITATION.

**PRECAUTIONARY STATEMENT(S)**

P264                    WASH SKIN THOROUGHLY AFTER HANDLING.

P280                    WEAR PROTECTIVE GLOVES / EYE PROTECTION /  
FACE PROTECTION.

P305 + P351 + P338    IF IN EYES: RINSE CAUTIOUSLY WITH WATER  
FOR SEVERAL MINUTES. REMOVE CONTACT  
LENSES, IF PRESENT AND EASY TO DO.  
CONTINUE RINSING.

P337 + P313            IF EYE IRRITATION PERSISTS: GET MEDICAL  
ADVICE/ ATTENTION.

HAZARDS NOT            NONE  
OTHERWISE

CLASSIFIED (HNOC)  
OR NOT COVERED  
BY GHS

---

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

---

MF:                      C<sub>2</sub>H<sub>2</sub>N<sub>2</sub>S<sub>3</sub>

MW:                      150.25

CAS-NO.                1072-71-5

PURITY:                ≥ 98% (Assay by titration)

**HAZARDOUS COMPONENTS**

COMPONENT	CLASSIFICATION	CONCENTRATION
1,3,4-Thiadiazole-2,5-dithiol	ACUTE TOX. 4; EYE DAM. 1; H302, H318	≤ 100 %

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

---

**SECTION 4. FIRST-AID MEASURES**

---

**DESCRIPTION OF FIRST AID MEASURES**

GENERAL ADVICE	CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT OF DANGEROUS AREA.
IF INHALED	IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.
IN CASE OF SKIN CONTACT	WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN.
IN CASE OF EYE CONTACT	RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT A PHYSICIAN.
IF SWALLOWED	NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	NO DATA AVAILABLE

---

## **SECTION 5. FIRE AND EXPLOSION DATA**

---

<b>EXTINGUISHING MEDIA</b> SUITABLE EXTINGUISHING MEDIA	USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY CHEMICAL OR CARBON DIOXIDE.
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	CARBON OXIDES, NITROGEN OXIDES (NOX), SULPHUR OXIDES
ADVICE FOR FIREFIGHTERS	WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY.
FURTHER INFORMATION	NO DATA AVAILABLE

---

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

---

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	USE PERSONAL PROTECTIVE EQUIPMENT. AVOID DUST FORMATION. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. EVACUATE PERSONNEL TO SAFE AREAS. AVOID BREATHING DUST.
---	---

	FOR PERSONAL PROTECTION SEE SECTION 8.
ENVIRONMENTAL PRECAUTIONS	DO NOT LET PRODUCT ENTER DRAINS.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP	PICK UP AND ARRANGE DISPOSAL WITHOUT CREATING DUST. SWEEP UP AND SHOVEL. KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.
REFERENCE TO OTHER SECTIONS	FOR DISPOSAL SEE SECTION 13.

---

## SECTION 7. HANDLING AND STORAGE

---

PRECAUTIONS FOR SAFE HANDLING	AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS. PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED. NORMAL MEASURES FOR PREVENTIVE FIRE PROTECTION. FOR PRECAUTIONS SEE SECTION 2.2.
CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. KEEP IN DRY PLACE STORAGE CLASS (TRGS 510): NON COMBUSTIBLE SOLIDS. Store at 0 - 8 °C
SPECIFIC END USE(S)	APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED

---

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

---

<b>CONTROL PARAMETERS</b>	
COMPONENTS WITH WORKPLACE CONTROL PARAMETERS	CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.
<b>EXPOSURE CONTROLS</b>	
APPROPRIATE ENGINEERING CONTROLS	HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND AT THE END OF WORKDAY.
PERSONAL PROTECTIVE EQUIPMENT	
EYE/FACE PROTECTION	SAFETY GLASSES WITH SIDE-SHIELDS CONFORMING TO EN166 USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).

SKIN PROTECTION	<p>HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.</p> <p>FULL CONTACT  MATERIAL: NITRILE RUBBER  MINIMUM LAYER THICKNESS: 0.11 MM  BREAK THROUGH TIME: 480 MIN  MATERIAL TESTED:DERMATRIL (KCL 740 , SIZE M)</p> <p>SPLASH CONTACT  MATERIAL: NITRILE RUBBER  MINIMUM LAYER THICKNESS: 0.11 MM  BREAK THROUGH TIME: 480 MIN  MATERIAL TESTED:DERMATRIL (KCL 740 , SIZE M)</p> <p>IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE CE APPROVED GLOVES. THIS RECOMMENDATION IS ADVISORY ONLY AND MUST BE EVALUATED BY AN INDUSTRIAL HYGIENIST AND SAFETY OFFICER FAMILIAR WITH THE SPECIFIC SITUATION OF ANTICIPATED USE BY OUR CUSTOMERS. IT SHOULD NOT BE CONSTRUED AS OFFERING AN APPROVAL FOR ANY SPECIFIC USE SCENARIO.</p>
BODY PROTECTION	<p>IMPERVIOUS CLOTHING, THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.</p>
RESPIRATORY PROTECTION	<p>FOR NUISANCE EXPOSURES USE TYPE P95 (US) OR TYPE P1 (EU EN 143) PARTICLE RESPIRATOR.FOR HIGHER LEVEL PROTECTION USE TYPE OV/AG/P99 (US) OR TYPE ABEK-P2 (EU EN 143) RESPIRATOR CARTRIDGES. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).</p>
CONTROL OF ENVIRONMENTAL EXPOSURE	<p>DO NOT LET PRODUCT ENTER DRAINS.</p>

---

**SECTION 9.      PHYSICAL AND CHEMICAL PROPERTIES**

---

**INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE	Tan powder
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	151 - 163 °C
BOILING POINT	
FLASH POINT	
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	1.79 mg/m <sup>3</sup> at 25 °C
WATER SOLUBILITY	NO DATA AVAILABLE
PARTITION COEFFICIENT: N- OCTANOL/WATER	NO DATA AVAILABLE
AUTO-IGNITION TEMPERATURE	NO DATA AVAILABLE
DECOMPOSITION TEMPERATURE	NO DATA AVAILABLE
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	NO DATA AVAILABLE
OTHER SAFETY INFORMATION	NO DATA AVAILABLE

---

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

---

REACTIVITY	NO DATA AVAILABLE
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	NO DATA AVAILABLE
CONDITIONS TO AVOID	NO DATA AVAILABLE
INCOMPATIBLE MATERIALS	STRONG OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS	HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS. - CARBON OXIDES, NITROGEN OXIDES (NOX), SULPHUR OXIDES
	OTHER DECOMPOSITION PRODUCTS - NO DATA AVAILABLE IN THE EVENT OF FIRE: SEE SECTION 5

---

**SECTION 11. TOXICOLOGICAL INFORMATION**

---

**INFORMATION ON TOXICOLOGICAL EFFECTS**

ACUTE TOXICITY	LD50 ORAL - RAT - 1,616 MG/KG REMARKS: ABSORPTION DERMAL: NO DATA AVAILABLE  NO DATA AVAILABLE
SKIN CORROSION/IRRITATION	NO DATA AVAILABLE
SERIOUS EYE DAMAGE/EYE IRRITATION	EYES - RABBIT RESULT: EYE IRRITATION
RESPIRATORY OR SKIN SENSITISATION	NO DATA AVAILABLE
GERM CELL MUTAGENICITY CARCINOGENICITY IARC:	NO DATA AVAILABLE  NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.
ACGIH:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY ACGIH.
NTP:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.
OSHA:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY OSHA.
REPRODUCTIVE TOXICITY	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	NO DATA AVAILABLE
ASPIRATION HAZARD	NO DATA AVAILABLE

ADDITIONAL  
INFORMATION

RTECS: XI3850000  
NAUSEA, HEADACHE, VOMITING. TO THE BEST OF  
OUR KNOWLEDGE, THE CHEMICAL PHYSICAL, AND  
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN  
THOROUGHLY INVESTIGATED.

AFTER ABSORPTION: WE HAVE NO DESCRIPTION OF  
ANY TOXIC SYMPTOMS.  
FURTHER DATA: OTHER DANGEROUS PROPERTIES CAN  
NOT BE EXCLUDED.  
HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL  
HYGIENE AND SAFETY PRACTICE.

---

**SECTION 12. ECOLOGICAL INFORMATION**

---

TOXICITY	NO DATA AVAILABLE
PERSISTENCE AND DEGRADABILITY	NO DATA AVAILABLE
BIOACCUMULATIVE POTENTIAL	NO DATA AVAILABLE
MOBILITY IN SOIL	NO DATA AVAILABLE
RESULTS OF PBT AND VPVB ASSESSMENT	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED
OTHER ADVERSE EFFECTS	WE HAVE NO QUANTITATIVE DATA CONCERNING THE ECOLOGICAL EFFECTS OF THIS PRODUCT. FURTHER INFORMATION ON ECOLOGY DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

---

**SECTION 13. DISPOSAL CONSIDERATIONS**

---

**WASTE TREATMENT METHODS**

PRODUCT	OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.
CONTAMINATED PACKAGING	DISPOSE OF AS UNUSED PRODUCT.

---

**SECTION 14. TRANSPORT INFORMATION**

---

DOT (US)	NOT DANGEROUS GOODS
----------	---------------------



**IMDG** NOT DANGEROUS GOODS

**IATA**

PROPER SHIPPING NAME: AVIATION REGULATED SOLID, N.O.S. ( 1,3,4-Thiadiazole-2,5-dithiol )  
UN NUMBER: 3335  
CLASS: 9  
PACKING GROUP: III

---

**SECTION 15. REGULATORY INFORMATION**

---

SARA 302 COMPONENTS	NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III, SECTION 302.
SARA 313 COMPONENTS	THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DEMINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.
SARA 311/312 HAZARDS	ACUTE HEALTH HAZARD
MASSACHUSETTS RIGHT TO KNOW COMPONENTS	NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT.
PENNSYLVANIA RIGHT TO KNOW COMPONENTS	
	CAS # REVISION DATE
1,3,4-Thiadiazole-2,5-dithiol	1072-71-5
NEW JERSEY RIGHT TO KNOW COMPONENTS	
	CAS # REVISION DATE
1,3,4-Thiadiazole-2,5-dithiol	1072-71-5
CALIFORNIA PROP. 65 COMPONENTS	THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

---

**SECTION 16. OTHER INFORMATION**

---

MSDS LEGEND

MW: MOLECULAR WEIGHT  
MF: MOLECULAR FORMULA  
VOC: VOLATILE ORGANIC COMPOUNDS  
ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGINISTS  
CAS: CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER  
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
PEL: PERMISSIBLE EXPOSURE LIMIT (OSHA)  
TLV: THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

*THE INFORMATION ABOVE IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS*

*USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. IN NO EVENT SHALL CII BE LIABLE FOR ANY CLAIMS, LOSSES, OR DAMAGES OF ANY THIRD PARTY OR FOR LOST PROFITS OR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, HOWSOEVER ARISING, EVEN IF CII HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.*

*REVISION DATE: 01/27/2017*

VERSION:  
3.1.