

## SAFETY DATA SHEET

Preparation Date: 7/23/2015

Revision date 03/21/2019

Revision Number: G2

### 1. IDENTIFICATION

**Product identifier**

**Product code:** C3970  
**Product Name:** 1,1-CARBONYL-DI-(1,2,4-TRIAZOLE)

**Other means of identification**

**Synonyms:** Bis-1,2,4 triazol-1-yl-methanone  
**CAS #:** 41864-22-6  
**RTECS #** Not available  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** Manufacture of substances. Research and Development. Laboratory chemicals.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Tom Tyner (USA - West Coast)  
**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
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**Label elements**

**Warning**

**Hazard statements**  
 Harmful if swallowed

**Hazards not otherwise classified (HNOC)**

May cause respiratory irritation

**Other hazards**

Harmful to aquatic life

May cause long lasting harmful effects to aquatic life

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

**Precautionary Statements - Response**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight-%
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	100

**4. FIRST AID MEASURES****First aid measures****General Advice:**

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

**Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:**

Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

**Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

**Most important symptoms and effects, both acute and delayed****Symptoms**

Harmful if swallowed  
Ingestion may cause nausea, vomiting, and diarrhea

**Indication of any immediate medical attention and special treatment needed****Notes to Physician:**

Treat symptomatically.

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### **Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

## **5. FIRE-FIGHTING MEASURES**

### **Extinguishing Media**

#### **Suitable Extinguishing Media:**

Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray, mist, or foam.

#### **Unsuitable Extinguishing Media:**

Do not use a solid (straight) water stream as it may scatter and spread fire.

### **Specific hazards arising from the chemical**

#### **Hazardous combustion products**

Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

#### **Specific hazards**

May be combustible at high temperatures. Fire may produce irritating and/or toxic gases.

### **Special Protective Actions for Firefighters**

#### **Specific Methods:**

No information available

#### **Special Protective Equipment for Firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions, protective equipment and emergency procedures**

#### **Personal Precautions:**

Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Avoid dust formation.

#### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. Prevent product from entering drains. Do not let this chemical enter the environment.

### **Methods and material for containment and cleaning up**

#### **Methods for containment**

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

#### **Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

### Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe dust. Keep away from sources of ignition - no smoking. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

#### Technical Measures/Storage Conditions:

Keep refrigerated. Store at 2-8 deg. C. Keep tightly closed in a dry, cool and well-ventilated place. Store in original container. Store away from incompatible materials. Store in a segregated and approved area.

#### Incompatible Materials:

Strong oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### National occupational exposure limits

##### United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	None	None	None	None

##### Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	None	None	None	None

##### Australia and Mexico

Component	CAS No	Australia	Mexico
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	None	None

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

**Eye protection:** Goggles or Safety glasses with side-shields.

**Skin and body protection:** Gloves  
Chemical resistant apron  
Long sleeved clothing

**Respiratory protection:** Effective dust mask. Use a dust respirator under conditions where exposure to

the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:**

Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands and face before breaks and immediately after handling the product

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state:</b> Solid	<b>Appearance:</b> Crystalline powder.	<b>Color:</b> White. Pale Yellow. Yellow-Beige.
<b>Odor:</b> No information available.	<b>Taste</b> No information available.	<b>Formula</b> C5H4N6O
<b>Molecular/Formula weight (g/mole):</b> 164.13g/mol	<b>Flammability (solid, gas)</b> no data available	<b>Flashpoint (°C/°F):</b> No information available
<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> 145-150°C/293-302°F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> No information available	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Specific gravity:</b> No information available	<b>pH</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> No information available	

**10. STABILITY AND REACTIVITY**

**Reactivity**  
No information available

**Chemical stability**

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials. Moisture sensitive.

**Incompatible Materials:** Strong oxidizing agents

**Hazardous decomposition products:** Carbon oxides. Nitrogen oxides (NOx).

**Other Information**

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Principal Routes of Exposure:**

Eyes. Ingestion. Inhalation. Skin.

**Acute Toxicity**

**Component Information**

1,1'-Carbonyl-di-(1,2,4-triazole)	
CAS No	41864-22-6

- LD50/oral/rat** = 1648 mg/kg oral LD50 rat
- LD50/oral/mouse** = No information available
- LD50/dermal/rabbit** = No information available
- LD50/dermal/rat** = No information available
- LC50/inhalation/rat** = No information available
- LC50/inhalation/mouse** = No information available
- Other LD50 or LC50 information** = No information available

**Product Information**

**LD50/oral/rat** =  
**Value - Acute Tox** = 1648 mg/kg

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = No information available

**LD50/dermal/rabbit**  
**Value - Acute Tox** = No information available

**LD50/dermal/rat**  
**VALUE - Acute Tox Dermal** = No information available

**LC50/inhalation/rat**  
**VALUE-Vapor** = No information available  
**VALUE-Gas** = No information available  
**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**  
**VALUE-Vapor** = No information available  
**VALUE - Gas** = No information available  
**VALUE - Dust/Mist** = No information available

**Symptoms**

**Skin Contact:** May cause skin irritation.

**Eye Contact:** May cause eye irritation.

**Inhalation** May cause respiratory tract irritation.

**Ingestion** Harmful if swallowed. May cause digestive (gastrointestinal) tract irritation.

**Aspiration hazard** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** No information available.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

*NTP (National Toxicology Program)*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organs:** No information available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.

*1,1'-Carbonyl-di-(1,2,4-triazole) - 41864-22-6*

**Algae/aquatic plants** 63 mg/mL EC50

**Crustacea** >100 mg/L EC50 Daphnia

**Persistence and degradability:** High persistence

**Bioaccumulative potential:** Potential for bioconcentration in aquatic organisms is low.

Mobility in soil No information available  
Other adverse effects No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Disposal Methods

##### Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

##### Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal Do not re-use empty containers  
Dispose of as unused product. Dispose of in accordance with federal, state and local regulations

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	None	None	None	None

### 14. TRANSPORT INFORMATION

#### DOT

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class No information available  
Subsidiary Class No information available  
Packing group: No information available  
Emergency Response Guide Number No information available  
Marine Pollutant No data available  
DOT RQ (lbs): No information available  
Special Provisions No Information available  
Symbol(s): No information available  
Description: No information available

#### TDG (Canada)

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class No information available  
Subsidiary Risk: No information available  
Packing Group: No information available  
Marine Pollutant No Information available  
Description: No information available

#### ADR

UN Number Not regulated  
Proper Shipping Name: No information available  
Transport hazard class(es) No information available  
Packing group No information available  
Subsidiary Risk: No information available

#### IMDG

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available

Product code: C3970

Product name:  
1,1-CARBONYL-DI-(1,2,4-TRIAZOLE)

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**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant** No information available

**RID**

**UN Number** Not Regulated  
**Proper Shipping Name:** No information available  
**Transport hazard class(es)** No information available  
**Subsidiary Risk:** No information available  
**Packing group** No information available

**ICAO (air)**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available

**IATA**

**UN Number** Not Regulated  
**Proper Shipping Name:** No information available  
**Transport hazard class(es)** No information available  
**Subsidiary Risk:** No information available  
**Packing group** No information available  
**Precautionary Statements - Response** No information available  
**Special Provisions** No information available

**15. REGULATORY INFORMATION**

**International Inventories**

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	Not Listed	Not present	Not present	Not present	Not listed	Not listed	Not present

**U.S. Regulations**

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis

1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	None	None	None	None	None
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## U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	Not Applicable	Not Applicable

## Canada

### WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information: Not a dangerous product according to HPR classification criteria.

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

## DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	Not Listed	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	Not listed

## EU Classification

### EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6	

### EU - CLP (1272/2008)

### **R**-phrase(s)

R22 - Harmful if swallowed

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

### **S** -phrase(s)

S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
1,1'-Carbonyl-di-(1,2,4-triazole)	41864-22-6		No information	

**The product is classified in accordance with Annex VI to Directive 67/548/EEC**

**Indication of danger:**

Xn - Harmful

**Xn****16. OTHER INFORMATION**

**Preparation Date:** 7/23/2015  
**Revision date** 03/21/2019  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**