

Preparation Date no data available

Revision date 07-16-2015

Revision number 1.01

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier

Product name Ziram Granuflo

Other means of identification

Product code 51040A
 UN-No UN2771
 Synonyms Zinc Dimethyldithiocarbamate
 Registration number(s) EPA Pesticide registration number 45728-12 ***

Recommended use of the chemical and restrictions on use

Recommended use Fungicide.
 Uses advised against No information available

Details of the Supplier of the Safety Data Sheet

Supplier Address

Taminco US Inc.
 A subsidiary of Eastman Chemical Company
 Two Windsor Plaza, Suite 411
 7540 Windsor Drive
 Allentown, PA USA 18195
 T: +(800) 223-3258

Emergency telephone number

Emergency Telephone

In case of emergency call CHEMTREC 1-800-424-9300
 for International calls 1-703-527-3887

2. Hazards Identification

Classification

OSHA Regulatory Status

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

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1B
Specific target organ toxicity (repeated exposure)	Category 2 oral

OSHA Defined Hazard

If converted to small particles during further processing, handling or by other means may form combustible dust concentrations in air.

Label Elements

Symbols/Pictograms



Signal Word
DANGER**hazard statements**

Harmful if swallowed
 Fatal if inhaled
 Causes serious eye damage
 May cause an allergic skin reaction
 May cause damage to organs through prolonged or repeated exposure
 May form combustible dust concentrations in air

Precautionary Statement - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not breathe dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 In case of inadequate ventilation wear respiratory protection
 Wear protective gloves/protective clothing/eye protection/face protection
 Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response

Get medical advice/attention if you feel unwell
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 IF ON SKIN: Gently wash with plenty of soap and water
 If skin irritation or rash occurs: Get medical advice/attention
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Rinse mouth
 Collect spillage

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local regulation

Hazards Not Otherwise Classified (HNOC)

Not Applicable

3. Composition/information on Ingredients

Synonyms Zinc Dimethyldithiocarbamate.

Chemical name	CAS-No	Weight %	Trade secret
Ziram	137-30-4	>75	No

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures**First Aid Measures**

General advice If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Obtain medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Thoroughly clean shoes before reuse. If skin irritation persists, call a physician.
Inhalation	Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. Immediate medical attention is required.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting. Treat symptomatically. If swallowed, seek medical advice immediately and show this container or label. Loosen tight clothing such as collar, tie, belt and waistband.
Protection of First-aiders	Use personal protective equipment.

Most Important Symptoms and Effects, Both Acute and Delayed

See Section 11: TOXICOLOGICAL INFORMATION.

Indication of Any Immediate Medical Attention and Special Treatment Needed

General advice for dithiocarbamates. Biomonitoring possible at chronic exposure: determination of TTCA in the urine at the end of the workday/week. Bloodtesting for delayed effects: liver tests, kidney function, thyroid function.

5. Fire-fighting measures

Unsuitable extinguishing media

No information available.

Specific hazards arising from the chemical

Danger of dust explosions. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous combustion products Nitrogen oxides (NOx). Carbon oxides. Sulphur oxides.***

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Wear respiratory protection. Wear suitable protective clothing, gloves and eye/face protection. Avoid dust formation. Remove all sources of ignition.

Environmental Precautions

Remove immediately adhering matter. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Use explosion-proof equipment. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Large spills should be collected mechanically (remove by pumping) for disposal. Keep in suitable, closed containers for disposal. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

7. Handling and Storage

Precautions for Safe Handling

Use only in area provided with appropriate exhaust ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not breathe vapours/dust. Use only in an area equipped with a safety shower. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands after handling. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool place. Do not store near acids. Do not store together with oxidizing and self-igniting products. Use spark-proof tools and explosion-proof equipment. Keep away from heat and sources of ignition. Keep away from direct sunlight.

incompatible materials Strong acids. Oxidizing agents.

8. Exposure Controls/Personal Protection**Control Parameters**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate Engineering Controls

Local exhaust. Avoid dust formation.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Tightly fitting safety goggles. Face-shield.
Skin and Body Protection	Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory protection	If irritation is experienced, NIOSH approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.
General hygiene considerations	When using, do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing.

9. Physical and Chemical Properties**Information on basic physical and chemical properties**

Physical state	solid powder	Odor	sweet***
appearance	No information available		
color	Beige***		
<u>Property</u>	<u>VALUES</u>	<u>Remarks • Method</u>	
pH	7.1*** (1% solution)		
Melting point/freezing point	No Data Available		
Boiling Point/Range			
flash point			
evaporation rate			
flammability (solid, gas)	Not flammable		
Flammability limit in air			
Upper flammability limit:	No information available		
Lower flammability limit:	No information available		
Vapour Pressure Value	Not applicable***		
vapor density			
Specific gravity	No information available		
Water solubility	No information available		

Solubility in Other Solvents	No information available
Partition coefficient	Not Applicable*** No information available
Autoignition temperature	244 °C
decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	Not explosive - Dust can form an explosive mixture with air
Oxidizing properties	Not Applicable

OTHER INFORMATION

molecular weight	No information available
VOC Content	No information available
density	0.60 g/ml

10. Stability and Reactivity

Reactivity

See Incompatible Materials

Chemical stability

Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions

Possibility of hazardous reactions. See Incompatible Materials.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Avoid dust formation. Keep away from heat and sources of ignition. Take precautionary measures against static discharges.

incompatible materials

Strong acids. Oxidizing agents.

Hazardous decomposition products

Heating or fire can release toxic gas. Carbon oxides. Nitrogen oxides (NOx). Sulphur oxides.

11. Toxicological Information

Inhalation	Fatal if inhaled. May cause irritation of respiratory tract.
Eye contact	Causes serious eye damage.
Skin contact	May cause allergic skin reaction.
Ingestion	Toxic if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Toxic if swallowed

Allergic reactions

Fatal if inhaled
Risk of serious damage to eyes

Product information

LD50/oral/rat =	478*** mg/kg
LD50/dermal/rat =	> 2000 mg/kg
LC50 Inhalation***	It was demonstrated that during intended and foreseen applications, no respirable aerosol is formed***
Eye irritation	corrosive, Risk of serious damage to eyes
Skin irritation	Non-irritating to the skin
sensitization	Causes sensitization on guinea-pigs
Mutagenic effects	Did not show mutagenic effects in animal experiments
Reproductive Toxicity	No toxicity to reproduction
Carcinogenic effects	Did not show carcinogenic effects in animal experiments
Specific target organ systemic toxicity (single exposure)	May cause respiratory irritation
Specific target organ systemic toxicity (repeated exposure)	May cause damage to organs through prolonged or repeated exposure***

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA
Ziram 137-30-4 (>75)	Not Listed	Group 3	Not Listed	Not Listed

Target organ effects liver, Spleen, blood.***

12. Ecological Information

Marine pollutant yes.

Ecotoxicity

Product information

Toxicity to Fish	LC50 : 0.364*** mg/l***
Long term fish toxicity	NOEC : 0.189*** mg/l
EC50/48h/daphnia =	0.131*** mg/l
EC50/120h/algae =	0.093*** mg/l***
Toxicity to bacteria	*** No information available

Persistence/Degradability

Degradation half life. after <10 days.

Bioaccumulative potential

Mobility in Soil

minimum

Other Adverse Effects

None known based on information supplied

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional office for guidance.

Contaminated packaging (44 lbs bags) Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. (10 lbs. lined cardboard boxes) Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then offer for recycling, if available, or dispose of liner in a sanitary landfill or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. If box is contaminated and cannot be reused, dispose of it in the manner required for its liner.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Ziram 137-30-4	waste number P205	-	-	-

14. Transport Information

DOT

UN-No UN2771
Proper shipping name UN2771, Thiocarbamate pesticide, solid, toxic (Ziram), 6.1, PG II, RQ
Hazard class 6.1
Packing group PGII
Reportable Quantity (RQ) 10.2 lbs.
Marine pollutant yes.

IATA

UN-No UN2771
Proper shipping name Thiocarbamate pesticide, solid, toxic (ziram)
Hazard class 6.1
Packing group II
Marine pollutant yes

IMDG/IMO

UN-No UN2771
Proper shipping name Thiocarbamate pesticide, solid, toxic (ziram)
Hazard class 6.1
Packing group II
Marine pollutant yes

15. Regulatory Information

International Inventories

TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Federal Regulations**SARA TITLE III SECTION 313 INFORMATION:**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

SARA 311/312 Hazardous**Categorization**

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	RQ	CERCLA/SARA RQ	RQ
Ziram 137-30-4	10 lbs	-	RQ= 0.454kg statutory RQ RQ= 1lb statutory RQ RQ= 1000lb final RQ RQ= 454kg final RQ

State Regulations**California Proposition 65**

No Data Available

State Right-to-Know

Chemical name	NJ	Ma	Pa
Ziram 137-30-4	X	X	Not Listed

U.S. EPA Label information

EPA Pesticide registration number 45728-12

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Difference between SDS and EPA pesticide label

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Corrosive. Causes irreversible eye damage. May be fatal if inhaled. Harmful if swallowed or absorbed through skin. Do not breathe dust or spray mist. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are made of any waterproof material. If you want more options, follow the instructions for Category A on an EPA chemical-resistant category selection chart.

Pilots applying this product in an enclosed cockpit must wear:

- Long sleeved shirt and long pants, and
- Shoes plus socks.

All other handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks,
- Goggles, face shield or safety glasses,
- Chemical-resistant gloves, and
- A dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

EPA Pesticide label

DANGER: Corrosive. Causes irreversible eye damage. May be fatal if inhaled. Harmful if swallowed or absorbed through skin. Do not breathe dust or spray mist. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

WHMIS Hazard Class

D1A Very toxic materials

CANADA

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

16. Other Information

NFPA
HMIS

HEALTH 3
HEALTH 3

FIRE 1
flammability 1

Instability 0
Physical hazards 0

Physical hazard -

Revision date 07-16-2015

Revision Summary

Not Available

Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet