



SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name: **Westco ZDMC**

Other means of identification:

Product Description: Rubber vulcanization accelerator for synthetic rubber.
Synonyms: Substance name: Ziram; Zinc bis dimethyldithiocarbamate, MZ, ZDMC, Zinc dimethyldithiocarbamate

Recommended use of the chemical and restrictions on use:

Product Use/Restriction: Accelerator used in the manufacture of rubber goods.

Chemical distributor, or other responsible party Name, address, and telephone number:

Distributor Name: Western Reserve Chemical Corporation
Address: 4837 Darrow Road
Stow, OH 44224
USA
General Phone Number: 330 650 2244
General Fax Number: 330 650 2255

Emergency phone number:

Emergency Phone Number: Chemtrec 1 800 424 9300 USA
Website: www.wrchem.com

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word: **Danger**

GHS Class: * Acute Toxicity Inhalation, Category 4.
* Acute Toxicity Oral, Category 4.
* Specific Target Organ Toxicity, Repeated Exposure, Category 2.
* Specific Target Organ Toxicity, Single Exposure, Category 3.
* Eye Damage, Category 1.
* Skin Sensitizer, Category 1.
* Hazardous to the aquatic environment, Acute category 1, Chronic category 1

Hazard Statements: May be fatal if inhaled.
Harmful if swallowed.
May cause damage to organs.
May cause respiratory irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
Very toxic to aquatic life with long lasting effects.

Precautionary Statements: * Do not handle until all safety precautions have been read and understood.
* Do not breathe dust/fume/gas/mist/vapours/spray.
* Wash hands thoroughly after handling.
* Do not eat, drink or smoke when using this product.
* Wear protective gloves/protective clothing/eye protection/face protection.
* Contaminated work clothing should not be allowed out of the workplace.
* Avoid release to the environment.
* IF INHALED: Seek immediate medical attention. Remove victim to fresh air and keep at rest in a position comfortable for breathing.
* IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
* IF ON SKIN: Wash with plenty of soap and water.

Hazards not otherwise classified that have been identified during the classification process:

Ziram; Rubber Accelerator ZDMC

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Eye: Causes eye burns. Signs/symptoms can include redness, swelling, pain, tearing.

Skin: May cause an allergic skin reaction. May be absorbed through the skin and produce effects similar to

those caused by inhalation and/or ingestion

Inhalation: May be fatal if inhaled. Exposure to dust particles generated from this material may cause irritation of the respiratory tract. Inhalation may cause alcohol intolerance.

Ingestion: May cause alcohol intolerance (Antabuse Effect). May cause headache, dizziness, nausea, vomiting or gastrointestinal irritation

Carcinogenicity: Ziram is not classifiable as to its carcinogenicity to humans (IARC Group 3).

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
Mineral Oil (Oiled Powder Only)	8042-47-5	<2 %	
Ziram; Rubber Accelerator ZDMC	137-30-4	98 %	

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

Eye Contact: Following eye contact: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical advice if irritation persists.

Skin Contact: Following skin contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Seek medical advice if irritation develops.

Inhalation: Following inhalation: Remove from exposure and move to fresh air and seek medical attention immediately. Have trained personnel administer oxygen.

Ingestion: Following ingestion:
Only when conscious, rinse mouth; give plenty of water to drink.
DO NOT induce vomiting. Seek medical advice.

Indication of immediate medical attention and special treatment needed:

Note to Physicians: Treat symptomatically and supportively.
Treatment may vary with condition of victim and specifics of incident.

Notes : General notes: In all cases of doubt, or when symptoms persist, seek medical attention.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media: Water spray, foam, powder, carbon dioxide

Specific hazards arising from the chemical:

Hazardous Combustion Byproducts: Combustible. Gives off irritating or toxic fumes (or gases) in a fire: sulphur dioxide (SO₂), nitrous gases (NO_x). Finely dispersed particles form explosive mixtures in air.

Special protective equipment and precautions for fire-fighters:

Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment

Fire Fighting Instructions: Fight fire from a safe distance and from a protected location. Use water spray to cool fire exposed surfaces. Do not allow runoff to enter waterways

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personnel Precautions: Wear protective equipment specified. P3 filter respirator for toxic particles. Avoid the generation of dust. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions:

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up:

Methods for containment: Do NOT let this chemical enter the environment.
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting.

Methods for cleanup: Isolate area and remove sources of friction, impact, heat, low level electrical current, and RF energy. Remove ignition sources and work with non-sparking tools. Carefully scoop up spilled substance; if

appropriate moisture first to prevent dusting. Remove to a safe place.

Reference to other sections

See Section 7 for information on safe handling.
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

Handling: All chemicals should be considered hazardous. Avoid direct physical contact. Use appropriate, approved safety equipment. Untrained individuals should not handle this chemical or its container. Handling should occur in a chemical fume hood. Normal measures for preventive fire protection.

Hygiene Practices:

- * When using, do not eat, drink or smoke.
- * Handle in accordance with good industrial hygiene and safety practice.
- * Follow good industrial hygiene practices when handling this material.
- * Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

Conditions for safe storage, including any incompatibilities:

Storage: Store closed containers in a cool, dry, well-ventilated area. Avoid exposure to direct sunlight. Keep away from incompatible materials, ignition sources and untrained individuals. Secure and label area. Protect containers/cylinders from physical damage.

Specific end use(s):

Work Practices: Use this product with adequate ventilation. Handle in accordance with good industrial hygiene and safety practices. Safety showers and eye wash stations should be available.

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

EXPOSURE GUIDELINES:

Ziram: Rubber Accelerator ZDMC:

Guideline Type: No Information Provided.
Guideline Info: No Information Provided.
USA: No Information Provided.
Guideline User Defined: No Information Provided.

Appropriate engineering controls:

Engineering Controls: Appropriate engineering controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Individual protection measures:

Eye/Face Protection: Sufficient eye protection must be worn. Wear full face chemical safety respirator.

Skin Protection Description: Wear dust tight protective clothing. Use protective gloves. The glove material must be sufficiently impermeable and resistant to the substance. Check the tightness before wear. Gloves should be well cleaned before being removed, then stored in a well ventilated location. Pay attention to skin care. Textile or leather gloves are completely unsuitable. The following materials are suitable for protective gloves: Polyvinyl chloride - PVC, rubber.

Hand Protection Description: Impervious gloves.

Respiratory Protection: Use in well-ventilated area. Use respirators in accordance with the code of federal regulations, labor part 1910.134 and reduce occupational exposure to the lowest achievable limits. Particle filter P2 or P3, color code white.

PPE Pictograms:



Notes : Environmental exposure controls: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State: Appearance: Powder
Color: White
Odor: Odourless
Boiling Point: Not applicable (decomposition from ca. 250°C).
Melting Point: 250 °C (OECD Guide-line 102).
Density: 1.66 g/cm³ at 25 °C
Solubility: (ies): 65 mg/l at 25°C, of very low solubility in water.
Vapor Pressure: ≤ 0.0000024 hPa at 25 °C (OECD Guide-line 104).
pH: No data available
Coefficient of Water/Oil Distribution: Partition coefficient (n -octanol/water): Log Pow = 1.086 at 20 °C (OECD Guide-line 107).

Flash Point: Not applicable (solid).
Auto Ignition Temperature: Not self-flammable.
Explosive Properties: Not explosive.
Oxidizing Properties: Not an oxidizer.

9.2. Other information:

Notes : Other information
No data available.

SECTION 10 : STABILITY and REACTIVITY

Reactivity:

Reactivity: No information available.

Chemical Stability:

Chemical Stability: Stable when stored at room temperature in closed, original container. Stable under normal conditions of handling, use and transportation.

Possibility of hazardous reactions:

Hazardous Polymerization: Possibility of hazardous reactions : The substance decomposes on heating and on burning producing toxic and irritating fumes. The substance decomposes on contact with acids.

Conditions To Avoid:

Conditions to Avoid: Keep away from heat, sparks and flame. Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen.

Incompatible Materials:

Incompatible Materials: Incompatible with acids, peroxides, and acid halides.
Corrosive to iron and copper Incompatible with strong oxidizing agents and acids.
Incompatible with mercury.

Hazardous Decomposition Products:

Special Decomposition Products: Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides, Zinc/zinc oxides.

SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Ziram; Rubber Accelerator ZDMC:

Skin: Acute Dermal toxicity: LD50 > 2000 mg/kg (rabbit) (EPA/FIFRA u 81-2);
Inhalation: Acute Inhalation toxicity: LC50 = 0.07 mg/l/4h (rat) (Directive 84/449/EEC, B.2)
Ingestion: Acute Oral toxicity: LD50 = 320 mg/kg (rat) (EPA/FIFRA u 81-1);
Sensitization: Respiratory or skin sensitization: Skin sensitization, Guinea pig: sensitizing (OECD Guide-line 406).
Mutagenicity: Ziram is not classifiable as to its carcinogenicity to humans (IARC Group 3).
Reproductive Toxicity: Ziram is not classifiable as to its carcinogenicity to humans (IARC Group 3).

SECTION 12 : ECOLOGICAL INFORMATION

Ziram; Rubber Accelerator ZDMC:

Persistence and degradability:

Biodegradation: Persistence and degradability
AEROBIC: Ziram ionizes to form dimethyldithiocarbamate ions that biodegrade in soil, releasing carbon disulfide and forming dimethylamine. A %CO₂ evolution of 68-79 after 49 days has been reported. However ziram possesses antibacterial properties, particularly for gram positive organisms, and this would hinder biodegradation under many situations. (HSDB)

Bioaccumulative potential:

Bioaccumulation: No bioaccumulation expected in water organisms (log Pow < 3).

Mobility in soil:

Mobility In Environmental Media: Mobility in soil : Using soil thin layer chromatography experiments, an R_f range of 0.33-0.62, retardation factors defined as the distance moved by a pesticide in relation to the water front, was measured for ziram. According to a classification scheme, this R_f value range indicates that ziram is expected to have slight to moderate mobility in suspended solids and sediment. However, the compound was immobile in other experiments using black clay and a red sandy loam soil. (HSDB)

Other adverse effects:

Effect of Material On Aquatic Life: Acute toxicity to fish: LC50 = 0.0097 mg/l/96h (Lepomis macrochirus)(OECD Guide-line 203);
Acute toxicity to daphnia: EC50 = 0.048 mg/l/48h (Daphnia magna)(OECD Guide-line 202, part 1);
Acute toxicity to algae: EC50 = 1.2 mg/l/96 h (Chlorella pyrenoidosa)

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

Ziram; Rubber Accelerator ZDMC:

Waste Disposal: Observe all federal, state, and local environmental regulations. Contact a licensed waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated Packaging: This bag may contain residue of a hazardous material. Some authorities may regulate such containers as hazardous waste. Dispose of the container according to national and local regulation. Do NOT reuse container.

RCRA Number: RCRA Classification: P205

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: TOXIC SOLID, ORGANIC, N.O.S., (Zinc dimethyl dithiocarbamate)

DOT UN Number: 2811

DOT Hazard Class: 6.1

DOT Packing Group: II

DOT Pictograms: 

IATA Shipping Name: TOXIC SOLID, ORGANIC, N.O.S. (Zinc dimethyldithiocarbamate)

IATA UN Number: 2811

IATA Packing Group: 6.1

IATA Pictograms: 

IMDG UN Number : 2811

IMDG Shipping Name : TOXIC SOLID, ORGANIC, N.O.S. (Zinc dimethyldithiocarbamate)

IMDG Hazard Class : 6.1

IMDG Packing Group : II

RID UN Number : 2811

RID Hazard Class : 6.1

RID Packing Group : II

ICAO UN Number : 2811

ICAO Shipping Name: TOXIC SOLID, ORGANIC, N.O.S. (Zinc dimethyldithiocarbamate)

ICAO Hazard Class : 6.1

ICAO Packing Group : II

Notes : Additional information : Do not transport with food and feedstuffs.

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

Ziram; Rubber Accelerator ZDMC:

TSCA Inventory Status: All components of this product are listed in the TSCA inventory of Chemicals Substances.

EINECS Inventory Status: This substance is listed in the inventory.

Japan ENCS: This substance is listed in the inventory.

SARA: Title III: 302/304/311/312: Under extremely hazardous or hazardous chemicals – not found. 313 Form R reportable (Zinc)

State Regulations: State Regulations: CT, FL, IL, LA, MA, MI, MN, RI – Not listed NJ & NY – Ziram PA RTK – Zinc Compound

Canada DSL: This substance is listed in the inventory.

EU Class: Authorisations: No information available.

Risk Phrases: * R22 - Harmful if swallowed.
* R26 - Very toxic by inhalation.
* R37 - Irritating to respiratory system.
* R41 - Risk of serious damage to eyes.
* R43 - May cause sensitization by skin contact.
* R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed.
* R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
.

Safety Phrase: * S23 - Do not breathe gas/fumes/vapour/spray.
* S24 - Avoid contact with skin.
* S25 - Avoid contact with eyes.
* S27 - Take off immediately all contaminated clothing.
* S36 - Wear suitable protective clothing.
* S53 - Avoid exposure - obtain special instructions before use.
* S20/21 - When using, do not eat, drink or smoke.

South Korea KECL: This substance is listed in the inventory.

China: This substance is listed in the inventory.
 Australia AICS: This substance is listed in the inventory.
 DSD (67/548/EEC): This substance is listed in the Annex I.



SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 4
 HMIS Fire Hazard: 1
 HMIS Reactivity: 1
 HMIS Personal Protection: X

Health Hazard	4
Fire Hazard	1
Reactivity	1
Personal Protection	X

SDS Revision Date: June 17, 2015

Notes : Important Note: This information relates to the specific product described herein and may not be valid for this material when used in combination with other raw materials. The information provided is without warranty regarding its accuracy or completeness. The information may not be valid under all conditions. The user has the final responsibility for determining the suitability of the product in a given application.

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