

PERKACIT ZDEC pdr and pdr-d

1. IDENTIFICATION OF THE SUBSTANCE OR PREPARATION AND THE COMPANY / UNDERTAKING

Product label name	Zinc diethyldithiocarbamate
Supplier / manufacturer	Performance Additives Italy S.p.A. Zona Industriale "A" 86039 Termoli (CB) Italy Tel. +39 0875 58941
Emergency Telephone	+49 40 30 299 - 0 (only during office hours, Behn Meyer Europe GmbH, Ballindamm 1, D-20095 Hamburg)
Intended use	Vulcanization accelerator

2. COMPOSITION / INFORMATION ON INGREDIENTS

This product is to be considered as a substance in conformance to EC directives.
Information on hazardous ingredients

Chemical description Zinc diethyldithiocarbamate

Composition / information on ingredients

Number	% w/w	CAS-Number	Chemical name		
1	99	14324-55-1	Zinc diethyldithiocarbamate		
Number	EC-number	Annex-1 number	Symbols (EU Classification)		Risk-phrases
1	238-270-9	006-082-00-4	N, Xn, Xi		R22 R36/37/38 R43 R50/53

Other Information Formula: C₁₀H₂₀N₂S₄Zn.

3. HAZARDS IDENTIFICATION

Harmful if swallowed.
Irritating to eyes, respiratory system and skin.
May cause sensitization by skin contact.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

Symptoms and effects	Dust may be irritating to the respiratory tract and cause symptoms of bronchitis. May cause alcohol intolerance. Irritating to eyes.
First aid	
General	Do not drink alcohol after exposure.
Inhalation	Move to fresh air. If symptoms persist, seek medical advice.
Skin	Wash immediately with soap and water.
Eye	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse mouth, give water to drink.
Advice to physician	No specific recommendations.

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5. FIRE-FIGHTING MEASURES

Extinguishing media	Waterspray, water mist, foam, dry chemical powder.
Unsuitable extinguishing media	Water jet.
Special exposure hazards	None known.
Hazardous decomposition / combustion products	Emits toxic fumes under fire conditions: hydrogen cyanide (HCN), sulphur dioxide (SO ₂), nitrous gases (NO _x).
Protective equipment	Wear self contained breathing apparatus.
Other Information	Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	For personal protection see Section 8. Avoid dust generation.
Environmental precautions	Do not flush into public water courses.
Methods for cleaning up	Collect as much as possible in a clean container for (preferable) reuse or disposal.

7. HANDLING AND STORAGE

Handling	Avoid contact with eyes. Avoid breathing dust. Avoid contact with skin.
Fire and explosion prevention	Avoid dust accumulation. Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition. Kst: 224 bar.m/s. Maximum corrected explosion pressure: 8.2 bar.
Storage requirements	Store in a dry and cool place.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering controls	Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.
Exposure limits	
Name	
Zinc diethyldithiocarbamate	WEL (TWA): 4 mg/m ³ (respirable dust) OES-TWA: 10.0 mg/m ³ (inhalable dust) OES-TWA: 4.0 mg/m ³ (respirable dust)
Personal protection	
Respiratory	Avoid breathing dust. In case of insufficient ventilation wear suitable respiratory equipment.
Hand	Wear protective gloves.
Eye	Wear safety goggles.
Skin	Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	dedusted powder; powder; powder, wettable; granules
Colour	white, cream
Odour	odourless
Boiling point / range	not determined
Melting point / range	min. 172 °C
Flash point	220 °C (Cleveland, open cup)
Flammability	not determined
Autoignition temperature	440 °C
Explosive properties	dust explosion hazard
Explosion limits	Lower Explosion Limit (LEL): 20 g/m ³ .

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Oxidising properties	Minimum ignition energy: 108 - 237 mJ.
Vapour pressure	not applicable
Density	negligible at room temperatures
Bulk density	1480 kg/m ³ (20 °C)
Solubility in water	330-370 kg/m ³
Solubility in other solvents	practically insoluble
pH value	CS ₂ , chlorinated hydrocarbons, benzene
Partition coefficient	7.8 (10 g/l, Aqueous dispersion)
n-octanol / water	not determined
Relative vapour density (air=1)	not applicable
Viscosity	not applicable

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid	No specific recommendations.
Materials to avoid	Oxidizing agents. Strong acid.
Hazardous decomposition products	No hazardous decomposition products known.
Other information	During the vulcanization process, traces of carcinogenic N-nitrosamines may be formed from decomposition products (amines) in the presence of nitrosating agents.

11. TOXICOLOGICAL INFORMATION

Name	Zinc diethyldithiocarbamate
Acute toxicity	
Oral LD50	rat: 2590 - 3530 mg/kg. rabbit: 570 mg/kg.
Dermal LD50	rabbit: > 3160 mg/kg. rat: >2000 mg/kg.
Irritation	
Skin	practically non-irritating EU: Irritating to skin.
Eye	severely irritating
Respiratory	EU: Irritating to respiratory system.
Genotoxicity	not mutagenic (Ames test, in vitro chromosome aberration)

12. ECOLOGICAL INFORMATION

Name	Zinc diethyldithiocarbamate
Ecotoxicity	
Fish	96h-LC50 (Oncorhynchus mykiss): 0.23 mg/l. 96h-LC50 (Lepomis macrochirus): 0.40 mg/l. 96h-LC50 (Pimephales promelas): 0.26 mg/l. 96h-LC50 (Poecilia reticulata): 0.49 mg/l.
Daphnia	48h-EC50 (Daphnia magna): 0.24 – 0.44 mg/l (Lit.).
Algae	96h-EC50 (Chlorella pyrenoidosa): 1.1 mg/l.

13. DISPOSAL CONSIDERATIONS

Product	Avoid discharge into the environment. Small quantities: According to local regulations. Large quantities: Consult Performance Additives for special advice.
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Contaminated packaging According to local regulations.
Other information Water code number: Please refer to your specific industry in the European Waste Catalogue.

14. TRANSPORT INFORMATION

Land transport

ADR class	9	ADR / RID packing group	III
RID class	9	Substance Identification No.	3077
Hazard Identification No.	90	UN number	3077
TREM-Card	http://www.unece.org/trans/danger/publi/adr/adr_linguistic_e.htm		

Proper Shipping Name Environmentally hazardous substance, solid, n.o.s. (zinc diethyldithiocarbamate) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc diethyldithiocarbamate)

Sea transport (IMDG-code / IMO)

IMO / IMDG code		Class	9
Packing group	III	UN number	3077
EMS	F-A, S-F	Subsidiary Risk	
Marine pollutant	yes		
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s. (zinc diethyldithiocarbamate)		

Air transport (ICAO-TI / IATA-DGR)

ICAO-TI/IATA-DGR		UN number	3077
Class	9	Packing group	III
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s. (zinc diethyldithiocarbamate)		

15. REGULATORY INFORMATION

Chemical description Zinc diethyldithiocarbamate

Labelling according to EC directives

EC-number see section 3

Classification based on Annex-1 to directive 67/548/EEC



Symbols (EU classification)

HARMFUL (Xn)

DANGEROUS FOR THE ENVIRONMENT (N)

R(isk) phrases (EU classification)

R 22 Harmful if swallowed
R36/37/38 Irritating to eyes, respiratory system and skin
R43 May cause sensitization by skin contact
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

S(afety) phrases (EU classification)

S 24 Avoid contact with skin
S 37 Wear suitable gloves
S 60 This material and its container must be disposed of as hazardous waste

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

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Other information

S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets

To be displayed on the label: "EC label".

Substance and/or product listed in Directive 96/82/EC. 3 (VwVwS Anhang 3, Nr. 6621)

German Water Hazard Class (WGK)

16. OTHER INFORMATION

This information only concerns the above-mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

R-phrases information**Chemical name**

Zinc diethyldithiocarbamate

Risk-phrases

R22 R36/37/38 R43 R50/53

Harmful if swallowed Irritating to eyes, respiratory system and skin May cause sensitization by skin contact Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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