

WILLING CHEM Document No: PWCC-MSDS-015

MSDS for Zinc Dibutyldithiocarbamate

****** SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ******

Product Name: Accelerator ZDBC
Chemical Name: Zinc Dibutyldithiocarbamate,
Synonyms: WILLING ZDBC, BZ
Company Identification: Puyang Willing Chemicals Co. LTD.
Industry and Commercial Model Zone
Puyang City, Henan, China
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****** SECTION 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 dibutyldithiocarbamate

Composition / information on ingredients

Number	% w/w	CAS-number	Chemical name	
1	97.5	136-23-2	Zinc dibutyldithiocarbamate	
Number	EC-number	Annex-1 number	Symbol(s)	Risk-phrase(s)
1	205-232-8	006-081-00-9	N Xi	R36/37/38 R43 R50/53

****** SECTION 3 – HAZARDS IDENTIFICATION ******

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.

****** SECTION 4 – FIRST AID MEASURES ******

Symptoms and effects: Dust may be irritating to the respiratory tract and cause symptoms of

bronchitis. May cause alcohol intolerance.

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 thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops.

Ingestion Rinse mouth, give water to drink.

Advice to physician No specific recommendations.

**** SECTION 5 – FIRE FIGHTING MEASURES ****

Extinguishing media : waterspray, water mist, foam, dry chemical powder.

Unsuitable extinguishing media : waterjet.

Special exposure hazards: none known.

Hazardous decomposition/

combustion products: Emits toxic fumes under fire conditions: hydrogen cyanide (HCN), sulphur dioxide(SO₂), 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.

**** SECTION 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.

**** SECTION 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: 197 bar.m/s.

Maximum corrected explosion pressure: 7,3 bar.

Storage requirements: Store in a dry and cool place.

**** SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering controls Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.

Exposure limits

Name

Zinc dibutylidithiocarbamate OES-TWA 5.0 mg/m³ (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 and body: Wear suitable protective clothing.

**** SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance:	powder, granules
Colour:	white, light pink
Odour:	odourless
Boiling point/range:	not determined
Melting point/range:	min. 100 °C
Flash point :	not determined
Flammability:	not determined
Autoignition temperature:	400 °C.
Explosive properties:	dust explosion hazard.
Explosion limits:	Lower Explosion Limit (LEL): 20 g/m ³ . Minimum ignition energy: =< 10 mJ.
Oxidizing properties:	not applicable
Vapour pressure :	Negligible at room temperatures
Density:	1270 kg/m ³ @ 20 °C)
Bulk density :	310-350 kg/m ³
Solubility in water:	Practically insoluble
Solubility in other solvents:	acetone, CS ₂
pH value:	neutral character
Partition coefficient	
n-octanol/water	not determined
Relative vapour density (air=1):	not applicable
Viscosity:	not applicable
Molecular Formula:	C ₁₈ H ₃₀ N ₂ S ₄ Zn
Molecular Weight:	474.1
Other data:	
Loss on Drying:	0.30% Max.
Zn Content:	13.0-15.0%

**** SECTION 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.

****** SECTION 11 – TOXICOLOGICAL INFORMATION ******

Name: Zinc dibutyldithiocarbamate

Acute toxicity

Oral LD50 rat: >5000 mg/kg.

Dermal LD50 rabbit: >2000 mg/kg.

Irritation

Skin Practically non-irritating.

EU: Irritating to skin.

Eye Practically non-irritating.

EU: Irritating to eyes.

Respiratory EU: Irritating to respiratory system.

Sensitization May cause sensitization in susceptible individuals (Lit.)

Genotoxicity Not mutagenic (Ames test)

Other toxicological information

subchronic (90 days) oral toxicity: No Observed Effect Level =< 500 ppm.

Oral carcinogenicity test:

2-year feeding study, rat: not carcinogenic;

18-months Feeding study, mouse: not carcinogenic

****** SECTION 12 – ECOLOGICAL INFORMATION ******

Ecotoxicity

Fish 96h-LC50 (Oncorhynchus mykiss): 520 mg/l.

96h-LC50 (Lepomis macrochirus): 880 mg/l.

daphnia 48h-EC50 (Daphnia magna): 0,74 mg/l.

****** SECTION 13 – DISPOSAL CONSIDERATIONS ******

Product: Avoid discharge into the environment.
Small quantities: According to local regulations.
Large quantities: Consult Flexsys for special advice.

Contaminated packaging: According to local regulations.

Other information: Waste code number: Please refer to your specific industry in the European Waste Catalogue.

****** SECTION 14 – TRANSPORT INFORMATION ******

Land transport (ADR/ RID)

ADR class	9		
RID class	9	ADR/RID packing group	III
Hazard Identification No.	90	Substance Identification No.	3077
TREM-Card	3077912c00	UN number	3077
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s. (zinc dibutyldithiocarbamate)		

Sea transport (IMDG-code/ IMO)

IMO/IMDG code	not relevant	Class	not restricted
Packing group	not relevant	UN number	none
EMS	none	Subsidiary Risk	none
Marine pollutant	no		
Proper Shipping Name	not relevant		

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.
(zincdibutyldithiocarbamate)

****** SECTION 15 – REGULATORY INFORMATION ******

Chemical description: Zinc dibutyldithiocarbamate Labelling according to EC directives
EC-number: See section 2
Classification based on: Annex-1 to directive 67/548/EEC
Symbol(s) IRRITANT (Xi) DANGEROUS FOR THE ENVIRONMENT (N)
R(isk) phrase(s) R 36/37/38 Irritating to eyes, respiratory system and skin
R 43 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) phrase(s) 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
S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets
Other information: To be displayed on the label: "EC label".
Wassergefährdungsklasse (WGK): 2 (VwVwS Anhang 3, Nr. 6611)

****** SECTION 16 – ADDITIONAL INFORMATION ******

MSDS Creation Date: 2/1/2003 Revision #0 Date: Original.

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