

01 - IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY / UNDERTAKING

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| PRODUCT NAME | ZINC,BIS(ETHYLPHENYL CARBAMODITHIOATO-S-S') |
| SUPPLIER | MLPC International 209 Avenue Charles DESPIAU 40370 RION DES LANDES Tel : 33-5-58-57-02-00 (International) 05-58-57-02-00 (France) Fax : 33-5-58-57-02-05 (International) 05-58-57-02-05 (France) |
| Emergency telephone number | 33-5-58-57-02-00 (International) 05-58-57-02-00 (France) |
| ORPHILA | 33-1-45-42-59-59 (International) 01-45-42-59-59 (France) |

02 - HAZARDS IDENTIFICATION

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| MOST IMPORTANT HAZARDS | SAFETY INFORMATION : PLEASE READ THIS SHEET CAREFULLY |
| HEALTH EFFECTS | May cause sensitization by skin contact. |
| PHYSICAL AND CHEMICAL HAZARDS | In contact with acids, liberates toxic gases (SOx and NOx). |
| SPECIFIC HAZARDS / EC | IRRITANT Irritating to eyes. |

03 - COMPOSITION / INFORMATION ON INGREDIENTS

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| CHEMICAL NAME OF THE SUBSTANCE | Zinc-bis(N-ethyl-N-phenyldithiocarbamate) |
| GENERIC NAME | Vulcanising accelerator. |
| CAS | 14634-93-6 ZINC,BIS(ETHYLPHENYL CARBAMODITHIOATO-S-S') PARAFFINIC OIL THERMOPLASTIC |
| EINECS / ELINCS | 238-677-1 ZINC,BIS(ETHYLPHENYL CARBAMODITHIOATO-S-S') PARAFFINIC OIL THERMOPLASTIC |
| TSCA | Listed |
| CHEMICAL NATURE OF THE PREPARATION | DISPERSION OF ZINC,BIS(DIBUTYL CARBAMODITHIOATO-S-S') (80 %) IN ELASTOMER |
| ADDITIVES | Paraffinic oil (10 %) PCA's (IP346) < 3% No CE labelling |
| HAZARDOUS COMPONENTS | ZINC,BIS(DIBUTYL CARBAMODITHIOATO-S-S') (80 %) |
| CHEMICAL FORMULA | C18-H20-N2-S4-Zn |

04 - FIRST AID MEASURES

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| GENERAL ADVICE | . |
| INHALATION | Move to fresh air. Consult a doctor. |
| SKIN CONTACT | Wash immediately and abundantly with water. In case of important contact : seek a medical advice. |
| EYE CONTACT | Wash immediately and abundantly with water for at least 15 minutes. If irritation persists, consult an ophthalmologist. |
| INGESTION | Get a medical help. |

05 - FIRE-FIGHTING MEASURES

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| SUITABLE EXTINGUISHING MEDIA | Water spray, foam, dry powder. |
| EXTINGUISHING MEDIA WHICH ARE NOT SUITABLE | All other extinguishants. |
| SPECIFIC HAZARDS | Thermal decomposition in : SOx, NOx. |
| SPECIFIC METHODS | Remove the combustible products. Hose down gases / fumes / dust with water spray. |

SPECIAL PROTECTIVE EQUIPMENT FOR
FIREFIGHTERS

Wear a self-contained breathing apparatus.

06 - ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION

Avoid contact with skin, eyes and inhalation of dust.

ENVIRONMENTAL PROTECTION

Do not let the product enter into drains.
Do not contaminate surface water.

METHODS FOR CLEANING UP

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Recovery

Shovel up.
Recover the product and place in a dry labelled container.

Disposal

To eliminate in an authorized incineration station or otherwise in compliance with law enforced regulations.

07 - HANDLING AND STORAGE

HANDLING

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Technical measures / Precautions

Storage and handling precautions applicable to products : DUST FORMING.
Provide appropriate exhaust and ventilation at machinery.
Provide appropriate device to allow to rinse eyes.

Safe handling advice

If dust is formed, wear a dust mask.

STORAGE

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Technical measures / Storage conditions

Store protected from moisture and heat.

Incompatible products

Oxidants, strong acids.

PACKAGING MATERIALS

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Recommended

Boxes with polyethylene liner or polyethylen bags..

08 - EXPOSURE CONTROLS / PERSONAL PROTECTION

PROTECTIVE PROVISIONS

Provide sufficient air exchange and/or exhaust in work areas.

CONTROL PARAMETERS

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Exposure limits

MAK value : 6 mg/m³

PERSONAL PROTECTION EQUIPMENT

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Respiratory protection

Dust mask.

Hand protection

Gloves.

Eye protection

Safety glasses.

Skin and body protection

Protective clothing.

Specific hygiene measures

Maintain strict body hygiene.
Avoid contact with skin, eyes and inhalation of dust.

09 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE (20°C)

Solid.

COLOR

White.

ODOUR

Nil.

pH

Not applicable.

BOILING POINT / RANGE

Not applicable.

MELTING POINT / RANGE

200 - 215°C

FLASH POINT

No data available.

EXPLOSIVE LIMITS

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Lower

No data available.

Higher

No data available.

BULK DENSITY

1250 kg/m³ (20 °C)

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| SOLUBILITY | . |
| Water | Insoluble when cold. |
| Solvents | Chloroform. |

10 - STABILITY AND REACTIVITY

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| CONDITION TO AVOID | Store protected from moisture and heat. |
| MATERIALS TO AVOID | Oxidants, strong acids. |
| HAZARDOUS DECOMPOSITION PRODUCTS | Nil. |
| FURTHER INFORMATION | Thermal decomposition in toxic products : SO _x , NO _x |

11 - TOXICOLOGICAL INFORMATION

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| ACUTE TOXICITY | . |
| Inhalation | No data available. |
| Ingestion | LD50 / oral / rat : 7200 mg/kg |
| Skin-contact | No data available. |
| LOCAL EFFECTS | . |
| Inhalation | Dust inhalation may cause alcohol intolerance. |
| Skin-contact | Prolonged or repeated contact with skin can cause eczema-like dermatitis. |
| Eye-contact | DRAIZE assay (eyes, rabbit) : 500 mg/24 hours. |
| SENSITIZATION | . |
| Skin-contact | Risk of skin sensitization. |
| FURTHER INFORMATION | Antabuse effect. |

12- ECOLOGICAL INFORMATION

- NO INFORMATION AVAILABLE

13 - DISPOSAL CONSIDERATIONS

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| DISPOSAL OF PRODUCT | To eliminate in an authorized incineration station or otherwise in compliance with law enforced regulations. |
| DISPOSAL OF PACKAGING | To eliminate as industrial or dangerous disposals in function of the nature and degree of pollutions. |

14 - TRANSPORT INFORMATION

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| ADR / RID | Not regulated. |
| IMDG | Not regulated. |
| IATA | Not regulated. |

15 - REGULATORY INFORMATION

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| EEC DIRECTIVE | . |
| SAFETY DATA SHEETS | D.91/155/EEC amended by D.2001/58/CE : Dangerous substances and preparations. |
| EC CLASSIFICATION / LABELLING | D. 2001/59/EEC amended by D. 2004/73/EEC : (29 rd APT) |
| HAZARDOUS SUBSTANCES | Xi (IRRITANT) |
| | R 36 Irritating to eyes. |
| | S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| | S 39 Wear eye / face protection. |
| Nr in ANNEX | Not listed. |

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| EC Nr (ENEICS / ELINCS) | 238-677-1 |
| SAFETY DATA SHEET | D.2001/58/EC du 27/07/2001 |
| HAZARDOUS SUBSTANCES | Arrêté du 9 novembre 2004 définissant les critères de classification et les conditions d'étiquetage et d'emballage des substances et transposant la directive 1999/45/CE du Parlement européen et du Conseil du 31 mai 1999. |
| OCCUPATIONAL DISEASES | France : Code de la Sécurité Sociale : article L461-4, tableau N°65. |
| FOOD STUFFS | FDA : not listed. BfR : approved (XXI categorie 1). |
| INVENTORIES | DSL / NDSL (CANADA) : listed N° 33720 |

16 - OTHER INFORMATION

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| RECOMMENDED USES | Vulcanising accelerator. |
| BIBLIOGRAPHY REFERENCES | Toxicity and safe handling of rubber chemicals (BRMA 1999). Dangerous properties of industrial chemicals (SAX 6th edition). Registry of toxic effects of chemicals substances (RTECS of NIOSH). Aquatic toxicology (VAN LEEUWEN 1985). INRS documentation. |
| Chemical Name : | Zinc-bis(N-ethyl-N-phenyldithiocarbamate) |
| Risk Phrases | R36 |

This information applies to the PRODUCT AS SUCH and conforming to specifications of MLPC International.

In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear.

The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. However the revision of some data is in progress.

Users are advised of possible additional hazards when the product is used in application for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes.

The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive.

It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product.

It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product.

The (*) indicate the modifications compared to the previous version.