

**ZINC NACIONAL, S.A.**  
**MATERIAL SAFETY DATA SHEET**

**SECTION 1 PRODUCT IDENTIFICATION**

1) **PRODUCT NAME:** OXZINAL 802 / OXZINAL 811 / OXZINAL 821 - ZINC OXIDE

2) **EMERGENCY PHONE NO.:** 011 (528) 343-85-80 & (528) 342-97-13      8) **NFPA ACUTE HAZARD RATING:**

3) **CHEMICAL NAME:** ZINC OXIDE, ZINC WHITE      **HEALTH:**      **FLAMMABILITY:**      **REACTIVITY:**

4) **CHEMICAL FAMILY:** ZINC COMPOUNDS      

2	0	0
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5) **CHEMICAL FORMULA:** ZnO      **DEGREE OF HAZARD:**      0 = MINIMUM HAZARD  
1 = SLIGHT HAZARD  
2 = MODERATE HAZARD  
3 = SERIOUS HAZARD  
4 = SEVERE HAZARD

6) **MANUFACTURER'S NAME:** ZINC NACIONAL, S.A.

7) **MANUFACTURER'S ADDRESS:** SERAFIN PEÑA #838 SUR  
MONTERREY, N.L.  
MEXICO, 64000

9) **DATE PREPARED:** AUGUST, 1st 1998

**SECTION 2 CHEMICAL COMPOSITION**

INGREDIENT	CHEMICAL NAME	CAS NO.	PERCENT
ZINC OXIDE	ZINC OXIDE	1314-13-2	99.80
LEAD		7439-92-1	0.005
CADMIUM		7440-43-9	0.001

LEAD AND CADMIUM ARE INHERENT IN THE MANUFACTURE OF ZINC OXIDE AND ARE NOT PHYSICALLY ADDED IN ITS MANUFACTURE.

**SECTION 3 HAZARDOUS INGREDIENTS AND IDENTITY INFORMATION**

MATERIAL	FORM	EXPOSURE CRITERIAS			
		OSHA	NIOSH		ACGIH
		PEL	REL	CEL	TLV
ZINC OXIDE	TOTAL DUST RESPIRABLE FRACTION	mg/m <sup>3</sup> 15 5	mg/m <sup>3</sup> 5	mg/m <sup>3</sup> 15	mg/m <sup>3</sup> 10

**SECTION 4 PHYSICAL DATA**

1) **APPEARANCE / ODOR:** WHITE COLOR, OORLESS POWDER

2) **PHYSICAL STATE:** SOLID

3) **BOILING POINT:** N/A

4) **MELTING / FREEZING POINT:** 1,975 °C

5) **SPECIFIC GRAVITY (WATER=1):** 5.607 (20°C / 4°C)

6) **pH (RECOMMENDED DISSOLUTIONS):** 9.70

7) **SOLUBILITY IN WATER:** GR./100 GR. WATER AT 28°C 3.5 X 10<sup>-4</sup> (77°F)

8) **VAPOR PRESSURE (mm/Hg):** N/A

9) **VAPOR DENSITY (AIR=1):** N/A

10) **EVAPORATION RATE:** N/A

11) **PERCENT VOLATILES:** N/A

**SECTION 5 FIRE AND EXPLOSION HAZARD DATA**

**FLASH POINT:** NOT COMBUSTIBLE

**EXTINGUISHING MEDIA:** FOAM WATER, DRY CHEMICAL OR CARBON DIOXIDE.

**SPECIAL FIRE FIGHTING PROCEDURES:** POISONOUS GASES ARE PRODUCED IN FIRE. WEAR FULL PROTECTIVE CLOTHING, SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND MODE.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** IN POWDER FORM, ZINC OXIDE IS A MODERATE FIRE AND EXPLOSION HAZARD. WILL ALSO BURN VIGOROUSLY ON CONTACT WITH FLAME OR BY CHEMICAL REACTION.

## REACTIVITY DATA

### SECTION 6

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|--|---|
| 1) THERMAL STABILITY:                      | STABLE  |
| 2) CONDITIONS TO AVOID:                    | ZINC OXIDE IS STABLE IN CLOSED CONTAINERS AT ROOM TEMPERATURE UNDER ROUTINE CONDITIONS OF STORAGE AND HANDLING. IT CAN ABSORB CARBON DIOXIDE FROM AIR TO FORM ZINC CARBONATE. |
| 3) HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: | N/A   |
| 4) HAZARDOUS POLYMERIZATION:               | WILL NOT OCCUR  |
| 5) INCOMPATIBILITY (MATERIALS TO AVOID):   | MINERAL ACIDS, SULFUR, CHLORINATED HYDROCARBONS OR MAGNESIUM (WHEN HEATED).   |
| 6) CORROSIVE ACTION ON MATERIALS :         | N/A   |

IMPORTANT: ZINC OXIDE AND MAGNESIUM REACT EXPLOSIVELY WHEN HEATED TOGETHER.

## HEALTH HAZARD DATA

### SECTION 7

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| 1) EYE AND SKIN CONTACT:               | WASH SKIN AREA WITH SOAP (DO NOT USE DETERGENT) AND WATER. MAY CAUSE IRRITATION.   |
| 2) INHALATION:                         | BED REST AND ASPIRIN (SYMPTOMS USUALLY DISAPPEAR WITHIN 24 HOURS). MAY IRRITATE THE RESPIRATORY TRACT. MAY INCREASE THE INCIDENCE OF UPPER RESPIRATORY INFECTIONS.   |
| 3) INGESTION:                          | ZINC OXIDE IS POORLY ABSORBED THROUGH THE DIGESTIVE TRACT. INGESTION MAY CAUSE GASTRITIS DUE TO THE FORMATION OF ZINC CHLORIDE IN REACTION TO STOMACH ACIDS.   |
| 4) EMERGENCY AND FIRST AID PROCEDURES: | <p>FOR INHALATION REMOVE TO FRESH AIR AND SEEK MEDICAL ATTENTION FOR ANY BREATHING DIFFICULTY. <u>SKIN CONTACT</u>: WASH WITH SOAP AND WATER. <u>EYE CONTACT</u>: FLUSH EYES IMMEDIATELY WITH WATER FOR AT LEAST 15 MIN. <u>IF INGESTED</u>, INDUCE VOMITING IMMEDIATELY BY GIVING TWO GLASSES OF WATER AND STICKING FINGER DOWN THROAT; NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. IN ALL CASES CONSULT PHYSICIAN FOR MEDICAL ATTENTION</p> |

## PRECAUTIONS FOR SAFE HANDLING AND USE

### SECTION 8

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| 1) MATERIAL RELEASE OR SPILL: | VENTILATE AREA. CLEAN UP-PERSONNEL REQUIRE RESPIRATORY PROTECTION. COLLECT POWDER MATERIALS AND DEPOSIT IN SEALED DRUMS. VACUUM OR SWEEP REMAINING MATERIAL (DON'T DRY SWEEP).  |
| 2) WASTE DISPOSAL METHOD:     | DISPOSE IN A CLOSED CONTAINER OR HEAVY BAG. MATERIAL MAY BE RECYCLED OR DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS. THIS MATERIAL MAY BE REGULATED UNDER CERCLA, TSCA, SARA AND/OR RCRA REGULATIONS. |
| 3) HANDLING AND STORING:      | PROTECT BAGS FROM PHYSICAL DAMAGE. STORE IN DRY AREAS. AVOID CONTACT IN STORAGE WITH INCOMPATIBLE MATERIALS.  |
| 4) PRECAUTIONARY LABELING:    | LIMIT EXPOSURE OF PERSONNEL, IF POSSIBLE. PRECLUDE FROM EXPOSURE THOSE INDIVIDUALS WITH PULMONARY AND CARDIAC DISEASES. USE ADEQUATE VENTILATION.   |

## CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

### SECTION 9

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| 1) VENTILATION:            | GENERAL EXHAUST.   |
| 2) RESPIRATORY PROTECTION: | USE NIOSH APPROVED PARTICULATE RESPIRATOR IF DUST GENERATION OCCURS. |
| 3) PROTECTIVE GLOVES:      | NATURAL RUBBER GLOVES.   |
| 4) EYE PROTECTION:         | SAFETY GOGGLES ARE RECOMMENDED.                                      |
| 5) WORKING UNIFORM:        | NORMAL.  |

ALWAYS WASH HANDS THOROUGHLY AFTER USING CHEMICAL; NEVER BRING FOOD, DRINK OR SMOKING MATERIALS INTO VICINITY OF CHEMICALS.

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