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**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**

Product Code                      ZinClear XP

Product Description              Zinc Oxide

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses                      Cosmetics raw material for sunscreen, & skin protection, industrial transparent UV resistant coatings, antibacterial application

**1.3 Details of the supplier of the safety data sheet**

Company                              Antaria Pty Ltd, 81 Shettleston Street, Rocklea, Queensland 4106, Australia

Responsible Department          Quality Assurance,    info@antaria.com

**1.4 Emergency telephone number (24 hour)**

+61 7 3724 0772

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**SECTION 2: Hazards Identification**

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008 (CLP/GHS)**

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

**Classification according to Directive 67/548/EEC (DSD)**

N; R50/53

**2.2 Label elements**

**Labelling according to Regulation (EC) No 1272/2008 (CLP/GHS)**

*Hazard pictograms*



GHS09: environment

*Signal word*

Warning

*Hazard statements*

H410              Very toxic to aquatic life with long lasting effects.

*Precautionary statements*

P273              Avoid release to the environment.

**Labelling according to Directive 67/548/EEC (DSD)**

Hazardous Symbol              N              Dangerous for the environment.

Risk Phrase                      R50/53              Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrase                      S60              This material and its container must be disposed of as hazardous waste.

S61              Avoid release to the environment. Refer to special instructions / safety data sheet.

**2.3 Other hazards**

None known.

**SECTION 3: Composition/information on ingredients**

Ingredient	Weight %	CAS	EINECS	Classification according to 67/548/EEC	Classification according to (EC) 1272/2008 (CLP)	REACH Registration number
Zinc Oxide	>99	1314-13-2	215-222-5	N; R50/53	H410	01-2119463881 32-0151

**SECTION 4: First aid measures****4.1 Description of first aid measures**

Skin	Wash affected areas with water and soap. Seek medical attention if irritation develops.
Eyes	Flush gently for 10 – 15 min with running water. Seek medical attention if irritation develops.
Inhalation	If over exposure occurs, remove to fresh air. If irritation or discomfort persists seek medical attention.
Ingestion	Drink plenty of water to dilute. Do NOT induce vomiting without first seeking medical advice. Get medical attention if person feels unwell.

**4.2 Most important symptoms and effects, both acute and delayed**

Irritant effects.

Zinc compounds are only slightly absorbable via the gastrointestinal tract.

**4.3 Indication of immediate medical attention and special treatment needed**

None known.

**SECTION 5: Fire fighting measures****5.1 Extinguishing media***Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surroundings.

*Unsuitable extinguishing media*

None known.

**5.2 Special hazards arising from the substance or mixture**

Not combustible.

**5.3 Advise for fire fighters***Special protective equipment for fire fighters*

In the event of fire, wear self-contained breathing apparatus and protective clothing.

*Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures***For non-emergency personnel*

Avoid inhaling of dust.

Clear area of personnel.

*For emergency responders*

Avoid inhaling of dust.

Protective equipment, see section 8.

#### 6.2 Environmental precautions

Do not allow entering sewage and drainage systems.

Avoid soil contamination.

#### 6.3 Methods and materials for containment and cleaning up

Clean up all spills immediately.

Contain spill with sand or other non-combustible materials. Use bunding and cover drains.

Collect recoverable material into labelled containers for recycling.

#### 6.4 Reference to other sections

Indications on waste treatment see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Observe label precautions.

#### 7.2 Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in a dry area, removed from foodstuff and incompatible materials such as acids and bases.

#### 7.3 Specific end uses

As identified in section 1.2.

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

*Exposure limits*

Australia (NOHSC)	TWA: 10 mg/m <sup>3</sup> (dust)
	TWA: 5 mg/m <sup>3</sup> (fumes)
United States (ACGIH)	TWA: 10 mg/m <sup>3</sup> (dust)
	TWA: 5 mg/m <sup>3</sup> (fumes)
United States (OSHA)	TWA: 5 mg/m <sup>3</sup> (dust, respirable)
	TWA: 15 mg/m <sup>3</sup> (total dust)
	TWA: 5 mg/m <sup>3</sup> (fumes)
Germany (DFG)	TWA: 5 mg/m <sup>3</sup> (fumes)
	TWA: 6 mg/m <sup>3</sup> (dust)

#### 8.2 Exposure controls

##### Appropriate engineering control

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

##### Individual protection measures

Protective clothing is specially selected for the workplace and depends on the concentration and quantity of the substance handled.

*Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

*Eye/face protection*

Safety glasses.

*Hand protection*

Rubber gloves.

*Respiratory protection*

Required when dust is generated.

*Environmental exposure control*

Do not empty into drains.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Appearance	Off-white to light yellow
Form	Free flowing powder
Odour	Odourless
Odour threshold	No information available
pH	No information available
Melting point /freezing point	1,970°C
Initial boiling point and boiling range	No information available
Flash point	Does not flash
Evaporation rate	No information available
Flammability	Not combustible
Upper/lower flammability limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	5.6 g/cm <sup>3</sup>
Solubility	Very slight in water, soluble in acids and alkalis
Partition coefficient	No information available
Auto ignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	Not to be expected

**9.2 Other data**

None

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Dangerous reactions are not expected when handling the product according to its intended use.

**10.2 Chemical stability**

Under storage at ambient conditions the product is stable.

**10.3 Possibility of hazardous reactions**

Violent reactions possibly with strong reducing agents.

**10.4 Conditions to avoid**

No information available.

**10.5 Incompatible materials**

Incompatible with acids, alkalis and strong reducing agents.

**10.6 Hazardous decomposition products**

No information available.

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

Acute toxicity, oral	LD <sub>50</sub> (mouse) 15,000 mg/kg (Löser, 1972) LD <sub>50</sub> (rat) >5,000 mg/kg (Löser, 1977)
Acute toxicity, inhalation	LC <sub>50</sub> (mouse) >5.7 mg/L in 4 hr (Klimish & Freisberg)
Skin irritation	Not irritant (Löser, 1977, Lansdown, 1991)
Eye Irritation	Not irritant (Van Huygevoort, 1999; Thijssen, 1978; Löser, 1977)
Sensitisation	No sensitising effects known (Van Huygevoort, 1999)
Germ cell mutagenicity	No biologically relevant genotoxic activity (CSR ZnO, 2010)
Carcinogenicity	No evidence for carcinogenicity activity (CSR ZnO, 2010)
Reproductive toxicity	No evidence for reproductive or developmental toxicity (CSR ZnO, 2010)
STOT – single exposure	No evidence for specific target organ toxicity (single exposure), (CSR ZnO, 2010)
STOT – repeated exposure	No evidence for specific target organ toxicity (repeated exposure), (CSR ZnO, 2010)
Aspiration hazard	Not available

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**SECTION 12: Ecological information****12.1 Toxicity**

Fish	Oncorhynchus mukiss (rainbow trout): LC <sub>50</sub> 1.1 mg/l in 4 days (ECOTOX)
Daphnia	Daphnia magna (water flea): EC <sub>50</sub> >2.0 mg/l in 2 days (ECOTOX)
Algae	Pseudokirchneriella subcapitata (green algae): IC <sub>50</sub> 0.63 mg/l in 3 days (ECOTOX)

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Other adverse effects**

Do not allow to enter waters, waste water or soil.




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**SECTION 13: Disposal consideration**

Dispose of contents/containers as hazardous waste in accordance to local regulations.

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**SECTION 14: Transport information**

	ADR/RID	IMDG	IATA/ICAO
<b>14.1 UN Number</b>	UN3077	UN3077	UN3077
<b>14.2 UN proper shipping name</b>	Environmentally Hazardous Substance, Solid, NOS (Zinc Oxide)	Environmentally Hazardous Substance, Solid, NOS (Zinc Oxide)	Environmentally Hazardous Substance, Solid, NOS (Zinc Oxide)
<b>14.3 Transport hazard class(es)</b>			
<b>14.4 Packing group</b>	III	III	III
<b>14.5 Environmental Hazards</b>	Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment	Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment	Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment
<b>14.6 Special precautions for user</b>	Avoid release to the environment  Collect spillage  Dispose of contents / container as hazardous waste	Avoid release to the environment  Collect spillage  Dispose of contents / container as hazardous waste	Avoid release to the environment  Collect spillage  Dispose of contents / container as hazardous waste
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable	Not applicable	Not applicable

**14.8 Road and Rail Exemptions**

Not classified as dangerous goods when transported by road or rail in Australia or the United States pursuant to Australian Special Provision AU01 and the United States Code of Federal Regulations 49 CFR 171.4 paragraph (c).

**14.9 Small Quantity Exemptions**

Not classified as dangerous goods under IATA Special Provision A197 when transported in single or combination packaging's containing a net quantity per single or inner packaging of 5L or less for liquids, or having a net mass of 5kg or less for solids. Are not subject to any other provisions of these regulations provided the packaging's meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

German WGK-category      Zinc oxide is classified as WGK 2 (hazard to waters)

**15.2 Chemical safety assessment**

No chemical safety assessment has been carried out.

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**SECTION 16: Other information****Full text of H-statements**

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

**Full text of R-phrases**

R50/53 Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.