

Material Safety Data Sheet

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1. Product and Company Identification

Trade Name :	ZrO ₂ (Zirconium dioxide)
Manufacturer :	SUNDA OPTICAL MATERIAL CO., LTD.
Tel :	+886-6-2892278
Fax :	+886-6-2892267
Add. :	No. 2-2, Ln. 11, Sec. 3, Dongmen Rd., East Dist., Tainan City 701, Taiwan (R.O.C.)
CAS NO :	12065-65-5

2. Hazard Identification

Hazard statements: Causes serious eye irritation, may cause respiratory irritation, causes skin irritation

Skin Corrosion/irritation: Category 2

Serious Eye damage/ Eye irritation: Category 2

Specific target organ toxicity(single exposure): Category 3

Target Organs- Respiratory system

Signal :



3. Composition/Information on Ingredients

元素雜質分析 (主含量 ZrO ₂ :>99.9%)			
分析元素	結果不大於 (%)	分析元素	結果不大於 (%)
Al ₂ O ₃	0.004	TiO ₂	0.005
Fe ₂ O ₃	0.0056	SiO ₂	0.028
該產品為白色圓片或顆粒，系無毒、無害、無爆的安全產品。			

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4. First-aid Measures

Inhalation : Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately if symptoms occur.
Skin Contact : Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
Eye Contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Ingestion : Do not induce vomiting. Obtain medical attention.
Most important symptoms and effects : Causes serious eye irritation and skin irritation.

5. Fire-fighting Measures

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Protecting equipment : Water self contained breathing apparatus for fire fighting if necessary.
Precautions for firefighters : As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal Precautions : Ensure adequate ventilation. Use personal protective equipment.
Environmental Precautions : Should not be released into the environment.
Methods for Containment and Clean Up : Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

7. Handling and Storage

Handling: Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid breathing dust. Minimize dust generation and accumulation. Wash hands before breaks and immediately after handling the product.
Storage: Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure Controls / Personal Protection

General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work.
Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate, use

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type N95 or type P1 respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH or CEN.

Protection of hands: The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.

Eye protection: Use safety glasses.

Body protection: Use protective clothing.

9. Physical and Chemical Properties

Physical state : Solid	Density : 5.89 g/cm ³
Appearance : White	Odor : Odorless
Melting point/range : 2700°C	Boiling point/range : 5000°C
Solubility : Insoluble in water	Flash point : 5000°C
Explosive limits : N/A	Test method : N/A

10. Stability and Reactivity

Reactive hazard: N/A
Stability: Stable under normal conditions.
Conditions to avoid: Avoid dust formation. Incompatible products.

11. Toxicological Information

Acute toxicity
Irritation: Irritating to eyes, respiratory system and skin.

12. Ecological Information

Eco-toxicity effects : N/A

13. Disposal Considerations

Waste disposal methods : Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
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14. Transport Information

Transport Information : Not regulated

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15. Regulations

Applicable regulations
1. Hazard Communication Standard: Labels and Pictograms
2. Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste
3. Public Hazardous Substances & Flammable Pressurized Gases Establishment Standards & Safety Control Regulations
4. Road traffic safety

16. Other Information

References	1. GHS Web.: http://www.ghs.url.tw/train/train6th.pdf 2. HSDB DBMS 3. OHS MSDS DBMS 4. ChemWatch DBMS
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