

Material Safety Data Sheet

1. Chemical Product and Company Identification

Glass type: **D-ZLaF52LA**

Glass manufacturer: CDGM

2. Composition/Information on Ingredients

Substance/Mixture: Mixture

Ingredients and contents:

| Chemical Name | Chemical formula | Cas number | Industrial Safety and | | Chemical Management Promotion Law | | | | | | |
|-------------------|--------------------------------|------------|---|---------------|---|---------------|-----------------------|-------------|---------------------------------------|---|---------------------------------------|
| | | | Hazardous substances of which notification of names is required | Content (wt%) | Names of designated chemical substances | Content (wt%) | Appended table number | Item number | Class 1 designated chemical substance | Specified Class 1 designated chemical substance | Class 2 designated chemical substance |
| Silica | SiO ₂ | 14808-60-7 | silica | 0-10 | - | - | - | - | - | - | - |
| Boron Oxide | B ₂ O ₃ | 1303-86-2 | boron oxide | 15-25 | boron and its compounds | 25 | 1st | 304 | ○ | - | - |
| Zinc Oxide | ZnO | 1314-13-2 | zinc and its water-soluble compounds | 15-25 | zinc and its water-soluble compounds | 17 | 1st | 1 | ○ | - | - |
| Zirconium Oxide | ZrO ₂ | 1314-23-4 | zirconium compounds | 0-10 | - | - | - | - | - | - | - |
| Titanium Oxide | TiO ₂ | 13463-67-7 | titanium oxide (IV) | 0-10 | - | - | - | - | - | - | - |
| Tungsten Trioxide | WO ₃ | 1314-35-8 | tungsten and its water-soluble compounds | 0-10 | - | - | - | - | - | - | - |
| Antimony Oxide | Sb ₂ O ₃ | 1309-64-4 | antimony and its compounds | 0-10 | antimony and its compounds | 0.1 | 1st | 25 | ○ | - | - |

Note: The Industrial Safety and Health Law and the Chemical Management Promotion Law are Japan laws and regulations.

3. Hazards Summarizing

Optical glasses are physically and chemically stable and are not hazardous.

Hazards: Ingestion of grinding and polishing liquids and inhalation of dust generated during dry processing may cause chronic or cumulative health impairment including cancer.

Environmental effects: Pay attention to the concentrations of grinding and polishing liquids in waste water as they may damage the ecosystem.

4. First-Aid Measures

Eye contact: If the grinding or polishing liquids come into contact with eyes, immediately rinse the eyes with clean water and obtain a medical diagnosis, if necessary. In the case of contact with dust from dry processing, be careful to avoid damaging the eyeballs.

Mouth contact: If grinding and polishing liquids and dust enter the mouth, rinse with plenty of water. If ingestion occurs, give the patient plenty of water and induce vomiting, then obtain a medical diagnosis, if necessary.

5. Fire-Fighting Measures

Since optical glasses are nonflammable, any extinguishing media may be used.

6. Accidental Release Measures

Grinding and polishing liquids: Stop the flow with sandbags or the like to prevent the spill from contaminating soil or being absorbed into waste water systems such as sewers. Collect as much of the released liquid as possible into an empty container.

Dust: Prevent dust from contaminating soil or being absorbed into waste water systems such as sewers, and collect as much of the released dust as possible into an empty container. Be sure to remain upwind and wear a dust mask when dealing with dust spills.

7. Handling and Storage

Since optical glasses are physically and chemically stable, no precautions are required in handling and storage.

During grinding, polishing, and dry processing: When handling be careful to prevent grinding and polishing liquids, grinding and polishing waste, and dust from dry processing from escaping and contaminating the environment. Gargle and wash hands thoroughly after work.

8. Exposure Controls/Personal Protection

Although there is no potential hazard in exposure to optical glass due to its physical and chemical stability, exposure to the mist scattered during wet processing and the scattered dust created during dry processing may result in injury.

During wet processing: Prevent mist from scattering by providing the processing machine with a protective cover or the like.

During dry processing: Prevent dust from scattering by installing a local exhaust system or the like. Wear a dust mask. Wear eye protection, if necessary.

Control concentrations of chemical substances

| | | | |
|-------------------------|------------------------|--|--|
| Chemical substance name | Dust | | |
| Control concentration | E=2.9mg/m ³ | | |

9. Physical and Chemical Properties:

Physical state: Solid

Color: Colorless hue or light yellow hue

Smell: No smell

PH: No applicable

Sag temperature (Ts): 582°C

Density: 4.56g/cm³

Solubility: insoluble

10. Stability and Reactivity

Stability: Stable

Reactivity: Normally unobservable

Decomposition products: Normally unpredictable

11. Toxicological Information

Since optical glasses are physically and chemically stable, they do not have acute toxicity or local effects.

Grinding and polishing liquids and grinding and polishing waste and dust have:

Acute toxicity: No information

Carcinogenicity: No information

Chronic toxicity: Cumulative chronic toxicity through inhalation and skin contact.

12. Ecological Information

Since optical glasses are physically and chemically stable, they have no ecological effects.

If the water concentrating grinding liquid exceeds the stipulated data which is described in Water Pollution Control Law, it may cause the accumulate poisoning.

| | | | |
|---|----------------------|--|--|
| Designated substance | Zn and its compounds | | |
| Standard of Draining or Permissible Concentration | 5mg/l | | |

13. Disposal

In accordance with the relevant laws for the treatment and clearing of waste, it could be treated by the profession department permitted.

14. Transport Information

None

15. Regulatory Information

Industrial Safety and Health Law, enforcement ordinance of the same, by law of the same Pneumoconiosis Law, enforcement regulations of the same.

Ordinance on the Prevention of Dust Hazard

Ordinance on the Prevention of Lead Poisoning

Ordinance on the Prevention of Hazards due to Specified Chemical Substances

Working Environment Measurement Law, enforcement ordinance of the same, enforcement by law of the same, standard of the same, standards for working environment evaluation

Water Pollution Control Law, enforcement ordinance of the same, enforcement by law of the same, prefecture and ministry ordinances, notifications, and the like stipulating effluent standards

Chemical Management Promotion Law

Waste Disposal and Public Cleaning Law, enforcement ordinance of the same, enforcement by law of the same.

- Please confirm applicability of laws and regulations depending upon the site scale, installed capacity, and the like
- Make sure you are aware of and adhere to all applicable local regulations
- All of the above rules and regulations are Japan

16. Other Information

Contact us if you wish to melt down glass for recycling or other purposes.

Caution: The information contained in the safety data sheet for chemical products is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not assure or represent a guarantee of the correct properties of the product.