Reference number : 0283-S-00

Safety Data Sheet

Chemical Substances and Company Information

Product name (Glass type) S-TIH53WN

Name of manufacturer Ohara Incorporated
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Hazards Identification

Optical glasses are physically and chemically stable and are not hazardous. However, the following danger hazardousness is concerned during processing of optical glasses.

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 wastewater as they may damage the ecosystem.

	GHS classification	BaO	Sb_2O_3	SiO_2	TiO_2	ZrO_2
Physical hazards	Explosives	Not classified	Not classified	Not classified	Not classified	Not classified
	Flammable gases	Not classified	Not classified	Not classified	Not classified	Not classified
	Aerosols	Not classified	Not classified	Not classified	Not classified	Not classified
	Oxidizing gases	Not classified	Not classified	Not classified	Not classified	Not classified
	Gases under pressure	Not classified	Not classified	Not classified	Not classified	Not classified
	Flammable liquids	Not classified	Not classified	Not classified	Not classified	Not classified
	Flammable solids	Not classified	Not classified	Not classified	Not classified	Classification not possible
	Self-reactive substances and mixtures	Not classified	Not classified	Not classified	Not classified	Not classified
	Pyrophoric liquids	Not classified	Not classified	Not classified	Not classified	Not classified
	Pyrophoric solids	Not classified	Not classified	Not classified	Not classified	Classification not possible
	Self-heating substances and mixtures	Not classified	Not classified	Not classified	Not classified	Classification not possible
	Substances and mixtures which, in contact with water, emit flammable gases	Not classified	Not classified	Not classified	Not classified	Not classified
	Oxidizing liquids	Not classified	Not classified	Not classified	Not classified	Not classified
	Oxidizing solids	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
	Organic peroxides	Not classified	Not classified	Not classified	Not classified	Not classified
	Corrosive to metals	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
	Desensitized explosives	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
Health hazards	Acute toxicity (Oral)	Classification not possible	Category 4	Not classified	Not classified	Classification not possible
	Acute toxicity (Dermal)	Classification not possible	Classification not possible	Not classified	Classification not possible	Classification not possible
	Acute toxicity (Inhalation: Gases)	Not classified	Not classified	Not classified	Not classified	Not classified
	Acute toxicity (Inhalation: Vapours)	Not classified	Classification not possible	Not classified	Not classified	Not classified
	Acute toxicity (Inhalation: Dusts and mists)	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
	Skin corrosion/irritation	Category 2	Classification not possible	Not classified	Not classified	Classification not possible
	Serious eye damage/eye irritation	Category 2A	Not classified	Category 2	Not classified	Classification not possible
	Respiratory sensitization	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
	Skin sensitization	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Category 1
	Germ cell mutagenicity	Classification not possible	Not classified	Classification not possible	Classification not possible	Classification not possible
	Carcinogenicity	Classification not possible	Category 1B	Category 1A	Category 2	Classification not possible
	Reproductive toxicity	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
	Specific target organ toxicity - Single exposure	Category 1 (Nervous system,Cardiovascular system,Muscle system,Kidneys,Digestive tract) Category 3 (Respiratory tract irritation)	Category 2 (Respiratory)	Category 3 (Respiratory tract irritation)	Classification not possible	Classification not possible
	Specific target organ toxicity - Repeated exposure	Category 1 (Cardiovascular system,Respiratory,Nervous system,Muscle system,Kidneys)	Category 1 (Respiratory)	Category 1 (Respiratory,Immune system,Kidneys)	Category 1 (Respiratory)	Classification not possible
	Aspiration hazard	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
Environmental Hazards	Hazardous to the aquatic environment Short term (Acute)	Classification not possible	Not classified	Classification not possible	Classification not possible	Classification not possible
	Hazardous to the aquatic environment Long term (Chronic)	Classification not possible	Not classified	Classification not possible	Classification not possible	Classification not possible
	Hazardous to the ozone layer	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
Symbols		 		 		
Signal Word		Danger	Danger	Danger	Danger	Warning

Composition / Information on Ingredients

Substance / Mixture: Mixture

Ingredients and contents

Chemical name	Chemical formula	Industrial Safety and Health Law		Chemical Management Promotion Law						Poisonous and Deleterious Substances Control Act
		Hazardous substances of which notification of names is required	Content (Weight %)	Names of designated chemical substances	Content (Weight %) Note 1	Japan PRTR-SDS Number	Class 1 designated chemical substance	Specified Class 1 designated chemical substance	Class 2 designated chemical substance	
Titanium dioxide	TiO_2	Titanium dioxide	20 - 30	—	—	—	—	—	—	—
Silicon dioxide	SiO_2	Silica	20 - 30	—	—	—	—	—	—	—
Barium oxide	BaO	Barium and its water-soluble compounds	10 - 20	—	—	—	—	—	—	○
Zirconium oxide	ZrO_2	Zirconium compounds	0 - 2	—	—	—	—	—	—	—
Antimony trioxide	Sb_2O_3	Antimony and its compounds	0 - 2	Antimony and its compounds	0.10	31	○	—	—	○

Note 1: Weight percentages of relevant substances are listed in accordance with the Chemical Management Promotion Law(Japan)

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 and obtain a medical diagnosis.

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.

Fire-Fighting Measures

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

Spillage Countermeasures

Grinding and polishing liquids : Stop the flow with sandbags or the like to prevent the spill from contaminating soil or being absorbed into wastewater 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 wastewater 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.

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; and
* Gargle and wash hands thoroughly after work.

Exposure Control / 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	Diantimony trioxide
Control concentration	E=3.0 mg/m^3	0.1mg/m^3

Physical and Chemical Properties

Physical state	:	Solid
Color	:	Pale yellow, transparent or colorless and transparent
Odor	:	Odorless
pH	:	Not applicable
Temperature of changing physical state (Yield point)	:	658℃
Specific gravity	:	3.54
Solubility	:	Low

Stability and Reactivity

Stability	:	Stable
Reactivity	:	Normally unobservable
Decomposition products	:	Normally unpredictable

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

Ecological Information

Since optical glasses are physically and chemically stable, they have no ecological effects.
Gas generated during melting does not have hazardousness to the ozone layer.

Disposal Considerations

Commission disposal to approved and licensed waste disposers in accordance with the relevant laws and regulations concerning the disposal and handing of wastes.

Transport Information

None

Regulatory Information(Japan)

Industrial Safety and Health Law, enforcement ordinance of the same, bylaw 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 bylaw of the same, standard of the same, standards for working environment evaluation
Water Pollution Control Law, enforcement ordinance of the same, enforcement bylaw of the same, prefecture and ministry ordinances, notifications, and the like stipulating effluent standards
Chemical Management Promotion Law
Soil Contamination Countermeasures Act, enforcement ordinance of the same, enforcement regulations of the same.
Poisonous and Deleterious Substances Control Act, enforcement ordinance of the same, enforcement regulations of the same.
Waste Disposal and Public Cleansing Law, enforcement ordinance of the same, enforcement bylaw 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.

Other Information

The information contained in this document has been prepared based on reference materials and information available at the time of publication for the safe handling, use, processing, storage, transportation, disposal and spill management of the product in question, but the information contained in this document is not guaranteed and does not constitute a quality specification.