

MATERIAL SAFETY DATA SHEETS**1. Identification**

Chemical Name	Dispersion of Zinc Oxide
Product Name	DIF-AB-33W
Company Name	Sakai Chemical Industry Co., Ltd.
Division Name	Advanced Materials Department
Section Name	Development & Technology Section
Address	110 tajuku, shimogawa, izumimachi, iwaki, fukushima 971-8183 JAPAN
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Recommended Use	Cosmetics

2. Hazard identification**GHS Classification¹⁾**

Physical hazards :	Explosives	Not applicable
	Flammable gases	Not applicable
	Flammable aerosols	Not classified
	Oxidizing gases	Not applicable
	Gases under pressure	Not applicable
	Flammable liquids	Not classified
	Flammable solids	Not applicable
	Self-reactive substances	Not applicable
	Pyrophoric liquids	Not classified
	Pyrophoric solids	Not applicable
	Self-heating substances	Not classified
	Substances which, in contact with water, emit flammable gases	Not classified
	Oxidizing liquids	Not classified
	Oxidizing solids	Not applicable
	Organic peroxides	Not applicable
	Corrosive to metals	Classification not possible
Health hazards :	Acute toxicity (Oral)	Not classified
	Acute toxicity (Dermal)	Classification not possible
	Acute toxicity (Gases)	Not applicable
	Acute toxicity (Vapors)	Classification not possible
	Acute toxicity (Dusts)	Not applicable
	Acute toxicity (Mists)	Not applicable
	Skin corrosion/irritation	Not classified
	Serious eye damage/eye irritation	Not classified
	Respiratory sensitization	Classification not possible
	Skin sensitization	Not classified
	Germ cell mutagenicity	Classification not possible
	Carcinogenicity	Not classified
	Productive toxicity	Classification not possible
	Specific target organs systemic toxicity (Single exposure)	Category 1 (Lung, Total body)
	Specific target organs systemic toxicity (Repeated exposure)	Classification not possible
	Aspiration hazard	Classification not possible
Environmental hazards :	Acute hazard to aquatic environment	Category 1
	Chronic hazard to aquatic environment	Category 1

Label elements ¹⁾

Labeling or symbol : Health hazard, environmental hazard
Environmentally hazardous substance (class 9)



Signal words : Danger

Hazard statements : Causes damage to lung and systemic toxicity.
Causes serious toxicity to aquatic life.
Causes long lasting serious toxicity to aquatic life.

Precautionary statements :

Prevention Do not eat, drink or smoke when using this product.
Wear appropriate protective equipment.
Do not breathe dust and fume.
Wash hands thoroughly after handling.
Avoid release to the environment.

Response If inhaled or feared inhalation, get medical advice/attention.
Get medical in a position comfortable for breathing.
Leakage shall be recovered.

Storage Store container tightly closed in well-ventilated place.

Disposal Dispose of contents in accordance
with local/regional/national/international regulation.

3. Composition/information on ingredients

Classification of the substance or mixture : mixture

Common name of chemical name : Dispersion of Zinc Oxide in water

Chemical name	General name	CAS No.	Class reference No. in the JPN Gazetted list	Concentration or Concentration range
Zinc oxide	ZnO	1314-13-2	(1)-561	49~59%
Hydrated silica	SiO ₂ · nH ₂ O	1343-98-2	(1)-548	1.0~10%
Hydrogen Dimethicone	Hydrogen Dimethicone	68037-59-2	(7)-477	1.0~10%
Water	H ₂ O	7732-18-5	-	20~30%
1,3-Butyleneglycol	CH ₃ CHOHCH ₂ CH ₂ OH	107-88-0	(2)-235	5.0~15%
Dispersant (Silicone)	-	-	-	1.0~10%

Hazardous constituents to contribute to the GHS classificat Zinc Oxide

Hereinafter, Zinc Oxide of the main ingredients is indicated.

4. First-aid measures

- Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Get medical advice/attention if you feel unwell.
- Skin : Wash with plenty of soap and water.
If skin irritation occurs, get medical advice/attention.
- Eye : Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists, get medical advice/attention.
- Ingestion : Rinse mouth.
Get medical advice/attention if you feel unwell.
- Expected immediate and delayed symptoms :
Irritation of eyes, skin and/or respiratory.
Cephalgia, chill, boke, vomit, diarrhea, or languor.
Late symptom : metal fume fever
- The most important signs and symptoms :
If inhaled fume, it may cause metal fume fever.

5. Fire-fighting measures

- Extinguishing media : Not combustible.
- Unsuitable extinguishing media :
Use an extinguishing media that is suitable for the materials
involved in the surrounding fire.
- Peculiar hazards : Zinc oxide fume may be released when heated.
- Peculiar fire extinguishing method :
Not applicable
- Protective equipment : Firefighters should ware a full set of protective clothing,
including a breathing apparatus.

6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures :
Notify safety personnel.
Ware protective gloves/clothing and eye/face protections.
Avoid contact to skin and eyes. Avoid inhalation of dust and fume.
- Environmental precautions :
Be careful not to release to the environment.
- Methods and materials for containment and cleaning up :
Scoop up material and all contaminated soil for later disposal.
Not to generate dust.
- Prevention of side hazards :
Keep floor clean each time because the substance may causes slip when it gets wet.

7. Handling and storage

Handling Technical measures : Described in "8. Exposure controls/personal protection".
Ventilation : Described in "8. Exposure controls/personal protection".
Caution : Containers should be protected from physical damage.
Avoid inhalation and ingestion.
Do not get in eyes.
Do not breathe dust and fume.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Do not eat, drink or smoke when using this product.

Storage Conditions : Store in a fixed place under less humid atmosphere.
Safety container : No requirements.

8. Exposure controls/personal protection

Exposure limit :	ACGIH (2005)	TLV-TWA	2mg/m ³
		TLV-STEL	10mg/m ³
	OHS	PEL-TWA	Respirable dust 5mg/m ³
			Fume 5mg/m ³
			Total dusts 15mg/m ³

Facilities : Eyewash fountains should be available in work area.
In the case of creating dust, local exhaust ventilation should be provided.
General ventilation should be provided to keep dust concentrations below the exposure limits.

Personal protective equipment

Respirator : Wear appropriate respirator.
Hands : Wear appropriate gloves.
Eyes : Wear safety glasses with side shields.
Skin : Wear appropriate protective clothing.

Hygiene : Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.

9. Physical and chemical properties

Appearance : White liquid
pH : 8-10
Flammability (solid, gas) : No

10. Stability and reactivity

Stability :	Zinc oxide is stable in general conditions. Soluble in acids and alkalies. React with sulfur compounds (gas) such as hydrogen sulfide when heated. Absorbs carbon dioxide from air.
Possibility of hazardous reactions :	Has exploded when mixed with chlorinated rubber. Reacts violently with magnesium, linseed oil. Zinc oxide and magnesium can react explosively when heated.
Conditions to avoid :	Heat, incompatibles.
Incompatible materials :	Chlorinated rubber, magnesium, linseed oil.
Hazardous decomposition products :	When heated to very high temperatures, zinc oxide sublimes to produce toxic fumes.

11. Toxicological information

Acute toxicity :	Oral Inhalation(dust)	Rat Rat	LD50 LC	>5000mg/kg ⁵⁾ >5.7mg/L /4H ⁵⁾
Skin corrosion/irritation :	Rabbit : not irritating. ^{5), 6)}			
Serious eye damage/ irritation :	Rabbit : minimal or not irritating. ⁵⁾			
Respiratory sensitization :	No information.			
Skin sensitization :	No affections. ⁵⁾			
Germ cell mutagenicity :	Suspected of positive (chromosomal aberration test, in vivo), divided into positive and negative (in vitro). ^{3), 5)}			
Carcinogenicity :	EPA : group D (unable to divide into carcinogenicity in humans).			
Reproductive toxicity :	Although the GHS classification is carried out "not classified" in EU-RAR43 (2004), the development of toxicity to a mother animal is not deni by the examination using rats. ⁵⁾			
STOST-single exposure :	Category 1 : Inhalation can cause a flu-like illness (metal fume fever). ⁶⁾ No respiratory tract irritation. ⁵⁾			
STOST-repeated exposure :	Classification is not possible due to a data deficiency.			
Aspiration hazard :	No information			

12. Ecological information

Acute aquatic toxicity :	Category 1 Celenastrum 72 hour EC50 >0.17mg/L (ECH221, 2001) (0.21mg/L as ZnO)
Chronic aquatic toxicity :	Category 1 Acute toxicity is category 1. Low biological cumulation (BCF=217), but the behavior of zinc oxide in water is unknown.

13. Disposal considerations

Waste disposal : Comply with local/regional/national regulations.
Containers : Containers should be cleaned up, then recycle or dispose of in accordance with regulations.

14. Transport information

International regulation : Transporting by sea : dangerous goods
Transporting by air : dangerous goods
Peculiar protection : Containers should be protected from direct sunlight, fall, shock, corrosion etc.
Pallets with containers should not be stacked up.
UN Number : 3082
Class : 9
Proper Shipping Name : Environmentally hazardous substance (solid)
Packing group : III
label : environmental hazard, Environmentally hazardous substance (class 9)



15. Regulatory information

EU COMMISSION DIRECTIVE 2001/58/EC

Label Name : **DIF-AB-33W**
According to Directives 67/548/EEC
Information To List With Respect To Hazardous Ingredients :
Contains : > 96.0% as ZnO
Hazard Symbols : N : Dangerous for the environment



Risk Phrases : R50 : Very toxic to aquatic organisms
R53 : May cause long-term adverse effect in the aquatic environment
Safety Phrases : S60 : This material and its container must be disposed of as hazardous waste
S61 : Avoid release to the environment.
Refer to special instruction/safety data sheet

Please refer to any other national measures that may be relevant

16. Other information

References	1) GHS Classification (2010) "National Institute of Technology and Evaluation" 2) HSDB (2005) 3) IRIS (2005) 4) ICSC (2004) 5) EU-RAR 43 (2004) 6) ACGIH (2003) 7) Gangolli (2nd, 1999) 8) Chaoman (2005) 9) PATTY (5th, 2001) 10) DFGOT vol 18 (2002)
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17. Caution

- This information may be amended in the light of newly acquired knowledge and/or test results.
- The information provided has been prepared on the basis of materials, knowledge, data, etc. which are currently available.
However, the information given on the contents, physical properties, and the hazardous or harmful nature of the product cannot be guaranteed.
- Cautions are given on the handling of the product in normal circumstances.
If the product is to be used in a special manner, precautionary measures must be taken appropriate to such usage.
- Since any chemical product is liable to have unknown harmful effects, very careful handling is always necessary.
Users are advised that it is their responsibility to establish safe conditions for handling the product.