

Product Name : ZEOMIC DAW502
 MSDS No. : EB-0016
 Revision Date : August 27, 2010

MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Product Name : ZEOMIC DAW502
 Company Name : Sinanen Zeomic Co., Ltd.
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 MSDS Number : EB-0016

2. Hazards Identification

Emergency overview : Can cause eye and respiratory tract irritation upon repetitive or prolonged exposure.

GHS Classification

Physical chemical hazard	Explosive	Not applicable
	Flammable aerosols	Not applicable
	Flammable alcohol	Not applicable
	Oxidizing gases	Not applicable
	Gases under pressure	Not applicable
	Flammable liquids	Not applicable
	Flammable solids	Not applicable
	Self-reactive substances	Not applicable
	Pyrophoric liquids	Not classified
	Pyrophoric solids	Not classified
	Self-heating substances	Not classified
	Substances which on contact with water emit flammable gases	Not classified
	Oxidizing liquids	Not applicable
	Oxidizing solids	Not classified
	Organic peroxides	Not applicable
	Substances corrosive to metals	Unclassifiable

Health hazard :

Acute Toxicity (Oral)	Not classified
Acute Toxicity (Dermal)	Unclassifiable
Acute Toxicity (Inhalation: Gas)	Not applicable
Acute Toxicity (Inhalation: Vapor)	Not applicable

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Acute Toxicity (Inhalation: Fine Particles)	Category 5
Acute Toxicity (Inhalation: Mist)	Not applicable
Skin Corrosion / Irritation	Not classified
Serious Eye Damage / Eye Irritation	Not classified
Respiratory Sensitization	Unclassifiable
Dermal Sensitization	Not classified
Germ Cell Mutagenicity	Unclassifiable
Carcinogenicity	Not classified
Reproductive Toxicity	Not classified
Specific Target Organ Systemic Toxicity (TOST) – Single Exposure	Category 1 (inhalation - systemic)
Specific Target Organ systemic toxicity (TOST) – repeated exposure	Category 1 (inhalation - lung)
Aspiration Hazard	Unclassifiable

Environmental hazard :

Hazards to the aquatic environment	Category 1
Chronic aquatic toxicity	Category 1

Label :

Health hazard

Environment

Signal / symbol :



Signal word : Danger

Hazard statement :

May cause sensitization by inhalation
Systemic toxicity disorder by inhalation
Prolonged and/or repeated inhalation exposition may cause lung disorder
Very toxic to aquatic organisms
Very toxic to aquatic organisms after prolonged exposure

Precautionary statement :

Safety measures	When using do not eat or drink
	Use only in well ventilated areas
	Do not breathe dust
	Wash thoroughly after handling

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	Do not discharge into drains or the environment
First aid	Obtain medical attention if you feel unwell. Recover spilled material
Storage	Avoid high temperature high humidity To avoid secondary cohesion by pressing refrain from pill high. Do not put onto wet floor.
Disposal	Dispose through approved local, state or federal entity. Dispose of in accordance with local, state and federal regulations.

3. Composition, Information on Ingredients

Chemical substance

Material Characteristic

Single product / Mixture Type : Mixture material

Chemical Name : **Aluminosilicate** **Zinc Oxide (ZnO)**
(Below referred as ①) **(Below referred as ②)**

① $M_{2/n}O \cdot Na_2O \cdot Al_2O_3 \cdot 2SiO_2 \cdot XH_2O$

Chemical formula : Where: **M**: Ag, Zn, NH₃, Na **n**: valence of M **X**: integral number
 ② ZnO

Japanese Chemical Regulation, MITI number (as single substance) : 1-508 as mainly ingredient, mixed with 1-23; 1-9, 1-561

CAS number : ① 1318-02-1 ② 1314-13-2

HS Code. : 2842.10

4. First Aid Measures

Inhalation	: Remove to fresh air area, and gargle with plenty of water. Obtain medical attention for any breathing difficulty.
Skin contact	: Wash exposed area with soap and water. Obtain medical attention if irritation develops.
Eye contact	: Immediately flush with water; obtain medical attention if prolonged feeling of foreign body.
Ingestion	: Gargle with plenty of water. Get medical attention.

5. Fire Fighting Measures

Fire fighting material	: Not flammable and will not support combustion.
Danger characteristic	: Risk in generation of zinc oxide fumes by combustion

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Fire fighting method : Remove containers if no risk of injury. If removing of containers is not possible cool down containers by sprinkling water

Fire fighting protection person : Wear firing appropriate clothes and breathing mask

6. Accidental Release Measures

Personal protective measure : Wear preventive or protective material mentioned in informative 8

Environment protective measure : Avoid entry into waterways, sewers. Do not discharge contaminated water without appropriate treatment

Recovery of spilled material : Use a vacuum to clean up spillage or collect spilled material using a broom, shovel, etc into disposal containers. Dispose recovered material according to informative 13.

Secondary disaster prevention measure : Prevent secondary contamination avoiding dust diffusion.

7. Handling and Storage

Handling

Technical measures : Not applicable

Since finely powder avoid dust generating
 Protect against physical damage. Do not handling roughly.

Handling precaution : Do not allow leakage and dispersion of fine particles. Keep containers closed when not used. After handling clean up thoroughly hands and face.

Safely handling : To avoid inhalation, eyes, skin or clothes contact use appropriate protective materials.

Storage

Appropriate storage conditions : Keep away from water sources. High hygroscopic material, store under closed and tight-shielded condition into the original container when not used.

8. Exposure Controls/Personal Protection

Facility measures : Local exhaust ventilation to avoid dust emission inhalation

Concentration to be managed : Not established

Allowable exposure concentration : ① Not established
 ② Exposure limit value, biological indicator

		Respirable fraction	1mg/m ³
Japan Society for Occupational Health (2005 edition)	Dust category 2	Total inhalation dust	4mg/m ³
ACGIH (2005 edition)	TLV-TWA		2mg/m ³
	TLV-STEL		10mg/m ³

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OSHA : PEL-TWA	Respirable fraction	5mg/m ³
	Fume	5mg/m ³
	Total dust	15mg/m ³
Protective materials		
Inhalation	: Respiratory face mask	
Hand	: Protective gloves	
Eyes	: Protective glasses	
Skin and body	: Protective shoes and clothes	
Hygienic measure	: Do not eat, drink or smoke when using	

9. Physical and Chemical Properties

Appearance, form and color	: Fine white powder
Odor	: Odorless
pH (1wt% water solution)	: 9.0±1.0
Ignition point	: nonflammable
Specific gravity	
True specific gravity	: 3.7 g/cm ³ (20C degrees)
Bulk specific gravity	: 0.3 g/cm ³ (20C degrees)
Solubility	① Insoluble in water
	② Insoluble in water, acid. Soluble in ammonia

10. Stability and Reactivity

Chemical Stability	① and ② Stable under ordinary conditions (room temperature, pressure) of use and storage
	② Soluble in acid and alkali. Reactive when heated with organosulfur compounds gases (hydrogen sulfide). Adsorbs CO ₂ in presence of water or humid state.
Reactivity hazard	① Not instance reported
	② Reactive with aluminum, magnesium powder, chlorinated rubber.
Conditions to avoid	① Not instance reported
	② Contact with incompatible products
Hazardous statement	① Not instance reported
	② Heating at high temperature sublimates producing harmful fumes.

11. Toxicological Information

Acute toxicity	①	②
	Rat Oral: LD ₅₀ >5000mg/kg	Rat Oral: LD ₅₀ >5000mg/kg
Acute inhalation toxicity	Rat Inhalation:	Rat Inhalation:
	LC ₅₀ >2.68mg/L	LC ₅₀ >5.7mg/L/4h

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Skin corrosion / Skin irritation	: Negative	Non irritation (rabbit)
Skin sensitization	: Negative	Non effect
Respiratory sensitization	: No data	No data
Carcinogenicity	: Negative	EPA Group D (not classifiable as carcinogenicity to human)
Reproductive toxicity	: Not instance reported	Non observable effect
Specific target organ systemic toxicity – single exposure	: No data	Division 1: Dust inhalation Vapor inhalation
Specific target organ systemic toxicity – repeated exposure	: No data	Division 1
Chronic toxicity	: NOEL: 0.011g/kg body weight/day(rat)	No data
Mutagenicity (microorganism, chromosome abnormality)	: No data	In vivo
Mutagenicity	: Negative	No data
Teratogenesis	: Not instance reported	No data

12. Ecological Information

Soil Mobility	: Not instance reported
Persistence / Degradation	: Not instance reported
Bioaccumulation	: Not instance reported
Acute hazardous to the aquatic environment	: ① Rainbow trout LC ₅₀ (96hrs) 16.9mg/L ② Category 1: Green algae (<u>Selenastrum</u>) 72 Hr EC ₅₀ = 0.17mg/L
Aquatic environmental hazards	: ② Category Acute 1: Low level of accumulation in organisms Since is a mineral compound behavior into water unknown.

13. Disposal Information

Residual waste	: Dispose waste material according to Local, State, Federal, and Provincial Environmental Regulations.
Contaminated containers and packages	: Reuse empty containers after cleaning in compliance with Local, State, Federal, and Provincial Environmental Regulations. Dispose empty containers after complete removal of the material.

14. Transportation Information

International Regulations

UN # : 3077(ENVIROMENTALLY HAZARDOUS SUBSTANCE)

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UN Class	: 9
Sea transportation	: Regulated
Air transportation	: Regulated
Domestic Regulations	:
Ground transportation	: Not regulated
Sea transportation	: Regulated
Ocean contamination material	: Regulated
Air transportation	: Regulated
Additional information for safety transport	: Use strong well-sealed containers and avoid direct sun light exposure, physical damage, corrosion, leakage, crumble. Keep attention to water and moisture.

15. Regulatory Information

Industrial Safety Health	: Law 57, article 2. Enforcement 18 article 2, annex 9 Water Pollution Control Law (clause for zinc ion) enforcement
Pollution prevention related	: article 3 (waste water standard determined by the Prime Minister's Office) annex 2 (Zn 2mg/L)

16. Other information

None

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