Date of issue for the 1st edition : 22/11/2021

Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product name :

Product name: K-WHITE #105, #105S

Product code (SDS NO): K105_105S_E4-1

Recommended use and restrictions on use

Recommended use : Corrosion inhibitor

Details of the supplier of the safety data sheet

Name of supplier : TAYCA CORPORATION

Address : 4-11-6, TANIMACHI, CHUO-KU, OSAKA, JAPAN

Division : SALES DEPARTMENT

Phone : +81-6-6943-6453

FAX : +81-6-6943-6498

Address : 3-8-2, NIHONBASHI, CHUO-KU, TOKYO, JAPAN

Division : TOKYO BRANCH

Phone : +81-3-3275-0815

FAX : +81-3-3275-0859

Emergency phone : OSAKA FACTORY +81-6-6555-3254

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Serious eye damage/eye irritation: Category 2

Reproductive toxicity: Category 2

Specific target organ toxicity – single exposure: Category 1

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 1

Hazardous to the aquatic environment (Long-term): Category 1

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Signal word: Danger

HAZARD STATEMENT

Causes serious eye irritation

Suspected of damaging fertility or the unborn child

Causes damage to organs

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash contaminated parts thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

Collect spillage.
IF exposed or concerned: Get medical advice/attention.
IF exposed or concerned: Call a POISON CENTER or doctor/physician.
IF IN EYES: 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.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name	Content (%)	CAS No.	Chemicals No, Japan
Aluminium Dihydrogen Triphosphate	70 – 80	13939-25-8	(1)-24
Zinc oxide	25 – 35	1314-13-2	1-561

4. First-aid measures

Descriptions of first-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

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.

IF SWALLOWED

Rinse mouth.
Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.
This product is non-flammable.
Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Fire may produce dust and/ or fumes.

Advice for firefighters

Specific fire-fighting measures

If it is not dangerous, move the container from the fire area.

Special protective equipment and precautions for fire-fighters

Wear appropriate protective equipment and fireproof clothing.

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6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

Wear proper protective equipment.

Environmental precautions

Avoid release to the environment.

Avoid raising dust.

Methods and materials for containment and cleaning up

Collect spillage.

Preventive measures for secondary accident

Collect spillage.

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7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/mist.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash hands et al thoroughly after handling.

Do not eat, drink or smoke when using this product.

Any incompatibilities data is not available.

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Storage

Conditions for safe storage

Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Store locked up.

Avoid high stacking

Container and packaging materials for safe handling

Put into closed-type packaging or container (There are no limit for packaging and container).

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8. Exposure controls/personal protection

Control parameters

Adopted value

(Zinc oxide)

ACGIH(2001) TWA: 2mg/m3(R)

STEL: 10mg/m3(R) (Metal fume fever)

(Aluminium Dihydrogen Triphosphate)

ACGIH(2007) TWA: (Insoluble)1mg/m3(R) (Pneumoconiosis; LRT irr; neurotoxicity)

OSHA-PEL

(Zinc oxide)

TWA: 5mg/m3 (Zinc oxide fume)

TWA: 15mg/m3 (Zinc oxide_Total dust);

5mg/m3 (Zinc oxide_Respirable fraction)

NIOSH-REL

(Zinc oxide)

TWA: 5mg/m3; STEL: 10mg/m3 (Zinc oxide fume)

TWA: 15mg/m3; STEL: C 15mg/m3 (Zinc oxide_Total dust)

Exposure controls

Appropriate engineering controls

Exhaust/ventilator should be available.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

Skin and body protection

Wear protective clothing.

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9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Powder/granule

Color: White

Odor: None

Odor threshold data is not available.

Melting point/Freezing point: No information

Boiling point or initial boiling point: No information

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit: No information

Flash point: No information

Auto-ignition temperature: No information

Decomposition temperature: No information

Self-Accelerating Decomposition Temperature/SADT: No information

pH: Neutral (10% water dispersion)

Dynamic viscosity: No information

Kinematic viscosity: No information

Solubility:

Solubility in water: No information

Solubility in solvent data is not available.

Solubility as solvent data is not available.

n-Octanol/water partition coefficient: No information

Vapor pressure: No information

Vapor density: No information

VOC: Not applicable

Evaporation rate data is not available.

Density and/or relative density: 3.0g/cm3

Relative vapor density (Air=1) data is not available.
Relative density of the Vapor/air - mixture at 20℃ (Air = 1) data is not available.
Critical temperature data is not available.
No Particle characteristics data is not available.
Other information
Radioactivity: No information
Bulk density: No information
(Zinc oxide)
Melting point: 1975℃ (ICSC, 2004)
(Zinc oxide)
Specific gravity/Density: 5.607 (Merk, 14th 2006)
(Aluminium Dihydrogen Triphosphate)
Melting point: 1200℃

10. Stability and Reactivity

Reactivity
Stable under normal storage/handling conditions.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
When heated to a high temperature, zinc oxide reacts with aluminum, magnesium powder, chlorinated rubber.
Conditions to avoid
Contact with incompatible substances.
Incompatible materials
Aluminum, magnesium powder, chlorinated rubber.
Hazardous decomposition products
When heated to a high temperature, toxic fumes may be produced.

11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
(Product)
rat LD50 = 12000mg/Kg.
Acute toxicity (Oral)
[base data and／or Rationale for the classification]
(Zinc oxide)
Not classified:
Rat LD50 > 5000 mg/kg (EU-RAR(2004)).
(Aluminium Dihydrogen Triphosphate)
rat LD50 = 18400mg/Kg.
Acute toxicity (Dermal)
[base data and／or Rationale for the classification]
(Zinc oxide)
Not classified:
Dermal of rabbit LD50 >5000 mg/kg (EPA Pesticide(1992)).
Acute toxicity (Inhalation)
[base data and／or Rationale for the classification]
(Zinc oxide)
Not classified:
rat LC50 > 5.7mg/L(4hr) (EU-RAR(2004)).

Irritant properties

Skin corrosion/irritation

[base data and／or Rationale for the classification]

(Zinc oxide)

Not classified:

In a test using rabbits, no dermal reactions were noted after the application (ear) of 500 mg during 24-hour under occlusion (EU RAR (2004)). No signs of skin irritation were noted after open or occlusive application of 0.5 mL on the dorsal skin of rabbits for 5 consecutive days (EU-RAR (2004)).

(Aluminium Dihydrogen Triphosphate)

rabbit, Negative.

Serious eye damage/irritation

[base data and／or Rationale for the classification]

(Zinc oxide)

Not classified:

In the rabbit tests, slight erythema and edema were observed up to 2 days after treatment, therefore the substance was considered to be ″not irritating″ or ″borderline positive for irritation″ (EU-RAR (2004).

(Aluminium Dihydrogen Triphosphate)

cat.2A:

Based on an opinion of Aluminium dihydrogen triphosphate SIEF in EU.

Sensitization

Respiratory sensitization

[base data and／or Rationale for the classification]

(Zinc oxide)

Classification not possible:

Lack of data.

Skin sensitization

[base data and／or Rationale for the classification]

(Zinc oxide)

Not classified:

Three well-performed skin sensitizing tests in guinea pigs (Maximization test: Directive 96/54/EC B.6, OECD TG406) were reported (EU-RAR (2004)). The positive rate in each test was 40%, 0%, 0%, respectively. While the first test produced conflicting results (positive rate of 40%), the weight of evidence does not indicate that zinc oxide is a very potent sensitizing agent (EU-RAR (2004)). In a patch test for contact allergy, no positive responses were observed in the 14 patients when only zinc oxide was used (EU-RAR (2004)). It was concluded in EU-RAR (2004) that Zinc oxide does not have to be classified/labelled for skin sensitization.

Germ cell mutagenicity

Reverse-mutation assay in bacteria (Ames test) :Negative(Product)

Carcinogenicity

[base data and／or Rationale for the classification]

(Zinc oxide)

Classification not possible :

It is classified in group I by the US EPA (IRIS(2005)).

(Aluminium Dihydrogen Triphosphate)

ACGIH-A4(2007) : Not Classifiable as a Human Carcinogen

Reproductive toxicity

[base data and／or Rationale for the classification]

(Aluminium Dihydrogen Triphosphate)

No-observed-effect level(NOEL)　rat 1000mg/kg/day (NITE).

(Zinc oxide)

Category 2:

In a rat test, the administration of 0.4% in diet for 21 days prior to mating until day 15 of gestation resulted in resorptions of all fetuses. In rats administered in diet from day 0 of gestation to day 14 of lactation, stillborn pups were observed at 2000 ppm and higher concentrations (NITE(2008), EU-RAR (2004)). Since the manifestation of maternal general toxicity was not denied at the above toxic levels, the substance was classified into Category 2.

Teratogenic effects data is not available.

STOT

STOT-single exposure

[cat.1]

[base data and／or Rationale for the classification]

(Zinc oxide)

respiratory apparatus; systemic toxicity (Category 1:

Numerous cases of metal fume fever caused by inhalation exposure of zinc oxide micro dusts are reported and symptoms such as cough, chest pain, chill, fever, dyspnea, muscular pain and nausea may occur (NITE(2008), ACGIH (2003)). Since metal fume fever presents mainly symptoms in the respiratory system, the substance was classified into Category 1 (respiratory system, systemic toxicity).)

STOT-repeated exposure

Not classified or Classification not possible

[base data and／or Rationale for the classification]

(Zinc oxide)

Classification not possible:

Lack of data.

Aspiration hazard

Not classified Classification not possible

[base data and/or Rationale for the classification]

(Zinc oxide)

Classification not possible:

Lack of data.

Additional information

(Aluminium Dihydrogen Triphosphate)

Repeated dose toxicity

No-observed-effect level(NOEL)　rat male 100mg/kg/day, rat female 300mg/kg/day (NITE).

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[base data and／or Rationale for the classification]

(Aluminium Dihydrogen Triphosphate)

Killifish LC50> 100mg/L/24, 48, 72, 96hr.

Pseudokirchneriella subcapitata EC50> 100mg/L/0 - 72hr.

Daphnia magna EC50> 100mg/L/24, 48hr.

(Zinc oxide)

Category 1:

48h-LC50 = 0.098 mg Zn/L for Crustacea (Daphnia magna) (Initial Risk Assessment Report (NITE), 2008).

Hazardous to the aquatic environment (Long-term)

[base data and／or Rationale for the classification]

(Zinc oxide)

Category 1:
This substance is a metal compound and its behavior in water is unknown. Therefore, when chronic toxicity data are used, it is classified into Category 1 since the 72 hour NOEC = 24 μg Zn / L (29.9 μg ZnO / L) (EU – RAR, 2010) of algae (Pseudokirchneriella subcapitata)).

Water solubility
(Zinc oxide)
none (ICSC, 2004)

Persistence and degradability
Persistence and degradability data is not available.

Bioaccumulative potential
(Zinc oxide)
BCF=217 (Check & Review, Japan)
(Aluminium Dihydrogen Triphosphate)
concentration characteristics : low (NITE).

Mobility in soil
Mobility in soil data is not available.

Other adverse effects
Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods
Avoid release to the environment.
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No. / UN CLASS
UN No : 3077
Proper shipping name :
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide)
UN CLASS : 9
PG : III
ERG GUIDE No.: 171
Special provisions No.: 274; 331; 335; 375

Environmental hazards
MARPOL Annex III – Prevention of pollution by harmful substances
Marine pollutants (yes/no) : yes

Special precautions for user
Keep dry.
Protect from direct sunlight or rain.

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal Regulations
Chemicals listed in TSCA Inventory
Zinc oxide; Aluminium Dihydrogen Triphosphate

Other regulatory information
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN
Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2020 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2019 Recommendation on TLVs (JSOH)
Supplier's data/information
NITE; http://www.safe.nite.go.jp/japan/sougou/view/SystemTop_jp.faces
JCDB ezADVANCE

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.
The data does not signify any warranty with regard to the products' properties.