



Section 1. Identification

GHS product identifier : Muki Z WB-50 Comp B

14640 **Product code Product description** : Hardener. Other means of : Not available. identification

Product type : Solid.

Supplier's details : Jotun Paints Inc.

842 W. Sam Houston Parkway North

City Center Three, Suite 300 Houston, TX 77024 USA

Phone number: +1 (713) 860-8241

SDSJotun@jotun.com

Emergency telephone number (with hours of

operation)

: 1-800-424-9300 (Staffed 24/7)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard

(29 CFR 1910.1200).

Classification of the : AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1 substance or mixture

GHS label elements

Hazard pictograms



Signal word

Hazard statements : H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P273 - Avoid release to the environment.

Response : P391 - Collect spillage.

: Not applicable. **Storage**

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national

and international regulations.

Hazards not otherwise

classified

: None known.

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Section 3. Composition/information on ingredients

Substance/mixture
Other means of
identification

: Mixture: Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : 14640

| Ingredient name | % | CAS number |
|-----------------|-----|------------|
| zinc | ≥90 | 7440-66-6 |
| zinc oxide | ≤5 | 1314-13-2 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation

occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and

shoes. Get medical attention if symptoms occur.

Ingestion: Wash out mouth with water. If material has been swallowed and the exposed person is

conscious, give small quantities of water to drink. Do not induce vomiting unless

directed to do so by medical personnel.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact
 Inhalation
 No known significant effects or critical hazards.
 Skin contact
 No known significant effects or critical hazards.
 Ingestion
 No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: No specific data.Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

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Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

: None known.

Specific hazards arising from the chemical

: This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products

: Decomposition products may include the following materials: metal oxide/oxides

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders:

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Small spill

: Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill

: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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Section 7. Handling and storage

including any incompatibilities

Conditions for safe storage, : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|-----------------|---|
| zinc | None |
| zinc oxide | NIOSH REL (United States, 10/2020). |
| | CEIL: 15 mg/m³ Form: Dust |
| | TWA: 5 mg/m³ 10 hours. Form: Dust and |
| | fumes |
| | STEL: 10 mg/m³ 15 minutes. Form: Fume |
| | OSHA PEL 1989 (United States, 3/1989). |
| | [Zinc oxide fume] |
| | STEL: 10 mg/m³ 15 minutes. Form: Fume |
| | TWA: 5 mg/m³ 8 hours. Form: Fume |
| | OSHA PEL (United States, 5/2018). |
| | TWA: 5 mg/m³ 8 hours. Form: Fume |
| | TWA: 5 mg/m³ 8 hours. Form: Respirable |
| | fraction |
| | TWA: 15 mg/m³ 8 hours. Form: Total dust |
| | ACGIH TLV (United States, 1/2022). |
| | STEL: 10 mg/m³ 15 minutes. Form: |
| | Respirable fraction |
| | TWA: 2 mg/m³ 8 hours. Form: Respirable |
| | fraction |
| | OSHA PEL 1989 (United States, 3/1989). |
| | [Zinc oxide] |
| | TWA: 5 mg/m³ 8 hours. Form: Respirable |
| | fraction |
| | TWA: 10 mg/m³ 8 hours. Form: Total dust CAL OSHA PEL (United States, 5/2018). |
| | , |
| | [zinc oxide fume] STEL: 10 mg/m³ 15 minutes. Form: fumes |
| | TWA: 5 mg/m³ 8 hours. Form: fumes |
| | CAL OSHA PEL (United States, 5/2018). |
| | [zinc oxide dust] |
| | TWA: 5 mg/m³ 8 hours. Form: respirable |
| | fraction |
| | TWA: 10 mg/m³ 8 hours. Form: total dust |
| | TWA. TO MIGHT O Hours. Form. total dust |
| | |

Appropriate engineering controls

Environmental exposure controls

- : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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Section 8. Exposure controls/personal protection

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Wear suitable gloves tested to ISO 374-1:2016.

Recommended, gloves(breakthrough time) > 8 hours: nitrile rubber (> 0.4 mm)

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

: Solid.

Appearance

Physical state

Color : Grey
Odor : Odorless.
Odor threshold : Not applicable.
pH : Not applicable.
Melting point : Not applicable.
Boiling point : Not available.

Flash point : Closed cup: Not applicable.

Evaporation rate : Not available.
Flammability (solid, gas) : Not applicable.

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Section 9. Physical and chemical properties

Lower and upper explosive

(flammable) limits

: Not applicable.

Vapor pressure

: Not available.

Vapor density

: Highest known value: 5.47 (Air = 1) (zinc oxide).

Relative density

: 7.11 g/cm³ 59.33 pounds/gallon

Solubility

: Insoluble in the following materials: cold water and hot water.

Partition coefficient: n-

octanol/water

: Not available.

Auto-ignition temperature Decomposition temperature

: Not applicable. : Not available.

Viscosity

: Kinematic (40°C (104°F)): >20.5 mm²/s (>20.5 cSt)

Section 10. Stability and reactivity

Reactivity

: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability

: The product is stable.

Possibility of hazardous

reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid

No specific data.

Incompatible materials

: No specific data.

Hazardous decomposition products

: Under normal conditions of storage and use, hazardous decomposition products should

not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|----------------------|---------|-------|--|-------------|
| zinc | Skin - Mild irritant | Human | - | 72 hours 300 Micrograms Intermittent | - |
| zinc oxide | Eyes - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 mg | - |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

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Section 11. Toxicological information

Not available

Aspiration hazard

Not available.

Information on the likely routes of exposure

: Not available.

Potential acute health effects

Eye contact
 Inhalation
 No known significant effects or critical hazards.
 Skin contact
 No known significant effects or critical hazards.
 Ingestion
 No known significant effects or critical hazards.
 No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data.Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate

: Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
 Carcinogenicity : No known significant effects or critical hazards.
 Mutagenicity : No known significant effects or critical hazards.
 Teratogenicity : No known significant effects or critical hazards.
 Developmental effects : No known significant effects or critical hazards.
 Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

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Section 12. Ecological information

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|------------------------------------|--|----------------------|
| | Acute LC50 0.78 mg/l Fresh water | Daphnia - Daphnia magna Fish | 48 hours 96 hours |
| | Chronic NOEC 0.02 mg/l Fresh water | Fish - Oncorhynchus mykiss Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 96 hours 72 hours |

Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|------------|------------------|
| zinc | - | - | Not readily |
| zinc oxide | - | - | Not readily |

Bioaccumulative potential

| Product/ingredient name | LogPow | BCF | Potential |
|-------------------------|--------|-------|-----------|
| zinc oxide | - | 28960 | high |

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | ADR/RID | IMDG | IATA |
|----------------------------|---|---|---|---|---|---|
| UN number | UN3077 | UN3077 | UN3077 | UN3077 | UN3077 | UN3077 |
| UN proper shipping name | Environmentally hazardous substance, solid, n.o.s. (zinc) |
| | | | | | | |
| | | | | | | |

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Section 14. Transport information

| Transport hazard class(es) | 9 | 9 | 9 | 9 | 9 | 9 |
|-------------------------------|------|------|------|------|------|------|
| Packing group | 111 | 111 | 111 | 111 | 111 | |
| | | | | | | |
| Environmental hazards | Yes. | Yes. | Yes. | Yes. | Yes. | Yes. |

Additional information

DOT Classification

: Non-bulk packages of this product are not regulated as hazardous materials in package sizes less than the product reportable quantity, unless transported by inland waterway. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg.

Reportable quantity 1052.6 lbs / 477.89 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark). Non-bulk packages of this product are not regulated as dangerous goods when transported by road or rail.

Mexico Classification

: The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

ADR/RID

Tunnel restriction code: (-) Hazard identification number: 90

IMDG

: Emergency schedules (EmS): F-A, S-F Marine pollutant: Yes.

IATA

: This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according : Not available. to IMO instruments

Section 15. Regulatory information

U.S. Federal regulations

: TSCA 12(b) annual export notification: zinc

Clean Water Act (CWA) 307: zinc; zinc oxide; lead; cadmium

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

| Ingredient name | CAS number | % | |
|-----------------|------------|-------|--|
| lead | 7439-92-1 | 0.009 | |
| cadmium | 7440-43-9 | 0.008 | |

Clean Air Act Section 602

Class I Substances

: Not listed

Clean Air Act Section 602

: Not listed

Class II Substances

: Not listed

DEA List I Chemicals (Precursor Chemicals)

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Section 15. Regulatory information

DEA List II Chemicals (Essential Chemicals)

Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

SARA 313

| | Product name | CAS number | % |
|---------------------------------|--------------|------------|-----------|
| Form R - Reporting requirements | | | ≥90 ≤5 |
| Supplier notification | | | ≥90 ≤5 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: ZINC; ZINC OXIDE FUME

New York : The following components are listed: Zinc

New Jersey : The following components are listed: ZINC; ZINC OXIDE

Pennsylvania: The following components are listed: ZINC COMPOUNDS; ZINC OXIDE FUME

California Prop. 65

WARNING: This product can expose you to chemicals including Lead and cadmium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings. ca.gov.

| Ingredient name | Cancer | • | | Maximum acceptable dosage level |
|-----------------|--------|---|--------------|---------------------------------|
| lead cadmium | | | Yes. Yes. | Yes. Yes. |

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : Not determined.

Canada : Not determined.

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Section 15. Regulatory information

China : Not determined.Europe : Not determined.Japan : Not determined.

Malaysia : Not determined.

New Zealand : Not determined.

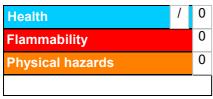
Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

| Classification | Justification |
|----------------|--|
| () | Calculation method Calculation method |

History

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revision

Date of previous issue : 17.10.2022

Version : 1.05

Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

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Section 16. Other information

Notice to reader

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.

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