

Safety Data Sheet

Created: October 1, 1998

Updated: July 14, 2017

1. Chemicals and company information

Product name: Vitalon LHA type
 Reference number: VTLN-001
 Company name: Tokiwa Industry Co., Ltd.
 Address: 7-15-2 No. 7, Minami-ku, Sagamihara-shi,
 Kanagawa Prefecture (〒252-0328)
 Responsible person: Tatsuo Yamazaki
 Phone number: 042-766-1001 FAX number: 042-766-1110
 Emergency contact phone number: same as above
 Recommended use and limitations: oxygen scavenger

2. Summary of hazards

GHS Classification

Physicochemical hazard: Cannot be classified within existing classification
 Hazards to health: Cannot be classified within existing classification
 Environment Hazardous: Cannot be classified within existing classification
 Pictogram or symbol: Not applicable
 Signal word: Not applicable
 Hazard statement: Not applicable

Note:

Safety measures:

- Be sure to read the safety data sheet before handling.
- When put in a microwave oven, it generates heat and the package may be broken or ignited.

First-aid measures (if contents leaked out):

- If it enters the eyes never rub the eyes, rinse with a clean running water for several minutes, see a doctor.
- If it adheres to the skin, immediately rinse thoroughly with plenty of water. If irritation persists, consult a doctor.
- If inhaled, move the affected person to a place with fresh air and rest in a manner easy to breathe. If you feel unwell, call a doctor.
- If swallowed, wash the inside of the mouth with water and consult a doctor or get treatment as necessary.
- If you are concerned about exposure or exposure, consult a doctor.

Storage: Store in a cool place with low humidity (not above 35 °C) temperature. A cold place is preferable.

Disposal: In case of large amounts, ask waste disposal contractor based on waste disposal and cleaning law.
 In case of small amount, deactivate it with oxygen in the air and treat it as industrial waste.

3. Composition and ingredient information

- Differentiation of chemical substances and mixtures: Mixture (packing)
- Packaging composition: (outside) printing / paper / LLDPE (drug side)

Ingredient Name	CAS. No.	Content
Iron powder	7439-89-6	Not disclosed
Clay mineral	Not disclosed	Not disclosed
water	7732-18-5	Not disclosed
Salt	7647-14-5	Not disclosed
Other reaction regulator	Not disclosed	Not disclosed

Hazardous ingredients

Industrial Safety and Health Act

Article 57 Substance to be indicated: Silica (No.312) (clay mineral, other reaction regulator): less than 10%

Article 57.2 Substance to be indicated: Silica (No.312) (clay mineral, other reaction regulator): less than 10%

Licensed goods control law: Not a target substance

4. FIRST AID MEASURES (if contents leaked)

- In case of contact with eyes:
 - a. Never rub the eyes, rinse immediately with clean running water and consult a doctor. When washing eyes, open eyelids often with your fingers and wash so that the water goes well to the corners of the eyes, eyelids.
 - b. If using contact lenses, remove and wash until no longer sticking.

- In case of adhesion to the skin:
 - a. Remove contaminated clothing.
 - b. Rinse off the area with soap while sipping a large amount of water or lukewarm water. If irritation persists, consult a doctor.
- Inhalation:
Move the affected person to a place with fresh air and rest breathing easily. If you feel unwell, call a doctor.
- Ingestion:
Wash the mouth thoroughly with water and dilute with a large amount of water. Get medical attention immediately.
- Other precautions:
There is no harm even if you drink accidentally, but when you vomit it, pay attention to inflow into the bronchi.

5. Suitable extinguishing materials

- Suitable extinguishing materials:
Foam, Powder fire extinguisher or dry sand, carbon dioxide extinguisher.
- Extinguishing media not to be used: Not particularly
- Specific hazards: None in particular
- Specific fire extinguishing method:
 - a. If not dangerous, move the container from the fire area.
 - b. For metal fires, it is preferable to use a sealing method, a suffocation method extinguishing rather than water. If it is impossible to extinguish, protect the seal and burn until it is lost.
- Protection of fire extinguishing materials: Wear appropriate air respirator, chemical protective clothing when extinguishing fire.

6. Measures against leakage

- Personal precautions, protective equipment and emergency measures:
Workers should wear appropriate protective equipment to avoid contact with the eyes and skin and inhalation.
- Environmental precautions:
 - a. Do not disassemble / disassemble packaging (packing).
 - b. Do not throw spills directly into rivers, sewers.
 - c. Collect dust by a vacuum cleaner or the like to prevent it from scattering.
 - d. Make sure that static electricity does not occur.
- Method and substrate for containment and purification:
 - a. Sweep up and collect it in a heat-resistant container such as a metal can.
 - b. Prevent drainage to drains, sewers, basements or closed places.
- Measures to prevent secondary disasters: Promptly remove all ignition sources (smoking in the area, ban on fire and flames)

7. Handling and Storage Precautions

- Handling:
 - a. Do not disassemble packaging (package).
 - b. Avoid hot and humid atmosphere to prevent sudden reaction.
 - c. If you spill it on the floor etc., wipe it off or sweep it up and clean it.
 - d. Do not put in a microwave oven.
 - e. Avoid acts that cause damage to product bags, such as rough handling and opening of corrugated boxes with knives.
 - f. Prohibit the use of high temperature objects, sparks and fire in the surrounding area.
- Storage:
 - a. Protect from direct sunlight or store in a dark place.
 - b. Store in a cool place with low humidity (not above 35 °C) temperature. A cold place is preferable.
 - c. Store in a place where there is no possibility of rainwater infiltration and flooding.
 - d. Do not keep in the same place as oxidizing substance, reducing substance, peroxide and acid.
 - e. If you store the product (in its packaging) again after opening the product bag. Insert it in a second bag and keep it sealed.

8. Exposure prevention and protection measures

- Controlled concentration: Iron powder and alloy iron powder, not set.
- Acceptable concentration: Iron powder [Fe] 1.0 mg / m³ ACGIH (TWA) (2005 version)
- Equipment countermeasure: It is not particularly necessary as long as it is not disassembled or in damaged

packaging (package).

- Protective equipment:

Eyes and face: (When contents of packaging [wrapping goods] leak) Protective glasses etc.

Hands and arms:--N/A

Leg:--

Respiratory system: (When the contents of packaging [wrapping items] leak) Dust mask

Whole body:-- Not example

Others: Protective tools are not particularly necessary unless the packaging (packing) is dismantled or damaged.

9. Physical and chemical properties (contents)

- Appearance (shape, color, etc.): solid, powder · granular, black to gray
- Odor: odorless
- pH:--
- Boiling point: 2740 ° C. (as Fe)
- Melting point: 1539 ° C. (as Fe)
- Flash point:--
- Upper and lower limits of combustion or explosion range:--
- Explosive characteristics:--
- Specific gravity: 7.87 (as Fe)
- Vapor pressure: 1 mm Hg @ 1787 ° C. (as Fe)
- Solubility: water:--
- Autoignition temperature:--
- Decomposition temperature:--

10. Stability and reactivity (contents)

- Stability · Reactivity: Reaction may be accelerated by the presence of moisture and moisture, which may generate heat.
- Conditions to avoid: High temperature, contact with incompatible dangerous goods.
- Incompatible dangerous substances: strong acids, strong oxidizing agents.
- Hazardous decomposition products: ---

11. Hazard Information (Content)

- Acute toxicity : Oral LD 50> 2,000 mg / kg
 Transdermal-- LD 50-- mg / kg
 Percutaneous-- LD 50-- ppm / hr
- Skin corrosion · irritation:--
- Serious eye damage · irritation:--
- Respiratory sensitization or skin sensitization:--
- Germ cell mutagenicity:--
- Carcinogenicity:
 silica contained in clay mineral is reasonably carcinogenic and is a substance of concern. However, this product is in the form of a package since it is a product to be used in this state, there is no possibility of repeated exposures.
- Reproductive toxicity :--
- Specific target organ toxicity (single exposure):--
- Specific target organ toxicity (repeated exposure):--
- Aspiration hazard:--

12. Environmental impact information

- Degradability:--
- Accumulation property:--
- Fish toxicity:--
- Other:--

13. Disposal considerations

- Remaining waste

In case of large quantity: Ask waste disposal contractor based on the waste disposal and cleaning law.

In case of small amount: After deactivating with oxygen in the air, treat it as industrial waste.

- Contaminated containers and waste: Product bags are treated as "plastic waste" according to the regulations of

each local government.

We will comply with the regulations of each municipality or outsource the cardboard box to a reuse processing company etc.

14. Shipping Precautions

- UN number: Cannot be specified with iron powder as the main component.
- Product name (UN transport name): metal powder
- UN classification: It cannot be specified as iron powder of the main component.
- Container grade: Cannot be specified as iron powder of the main ingredient.
- Marine pollutants: Not applicable
- Land regulation information: non-dangerous goods
- Maritime regulation information: non-dangerous goods
- Air Regulatory Information: non-dangerous goods
- Precautions:
 - a. Be careful not to break the bag of the product or deform the cardboard box.
(Do not throw, do not drop, do not build up high)
 - b. Cover and avoid direct sunlight.
 - c. Be careful not to raise the temperature. (Below 35 ° C)
 - d. Do not get wet with rain water etc. (Use waterproof sheet etc)
 - e. Avoid fire.
- Vehicle signs · Bulletin obligation: None in particular

15. Applicable laws (contents)

- Industrial Safety and Health Act:
 - Article 57 Displayed Substance Silica (No.312)
 - Article 57-2 Notification target substance silica (No.312)
- PRTR Law: Not Applicable
- Toxic Substance Control Law: Not Applicable
- Fire Defense Law: Not Applicable
- Ship safety law: Not applicable
- Aircraft safety law: Not applicable

16. Other information

- References

1) New edition · Hazardous Material Handbook (1st edition)

Central labor accident prevention council

2) Vitalone acute toxicity test report

(Japan) Food Analysis Center

3) Well-known standard rules for hazards and list of hazardous chemical substances (4th edition)

US OSHA

4) Material maker safety data sheet

5) Guidebook creation guidelines based on the revised Defense Law (August 2015)

6) GHS mixture classification judgment system (METI / Ministry of Economy, Trade and Industry)

- About this product : This product (Vitalone) is a wrapping product packaged in a pouch like deoxidizing agent, usually supplied, used and discarded in this shape. Therefore handling precautions and so on are assuming a package wrapping item. In addition, items on physicochemical properties and the like are described for deoxidation reaction agents.

- Handled content of the description Because it is created based on the information or information that was available at the moment in the contents of the description, there may be undescribed or omissible items. Also, due to new knowledge announcement and correction of conventional theory, correction may occur to the contents.

In addition, numerical values such as content, physicochemical properties, risk assessment, etc., do not constitute any warranty.

Notes etc. are intended for normal handling. When applying to special handling or new usage, please handle after taking appropriate safety measures for each.

- Inquiries concerning contents of description: Tokiwa Industries Co., Ltd. Telephone number: 042-766-1001
Fax number: 042-766-1110