



If reagents or test solutions;

Enter in eyes: Immediately rinse thoroughly.  
Contact with skin: Immediately wash out contaminated site with plenty of water.  
Enter into mouth: Immediately rinse mouth with plenty of water.

If ingested or in case any symptoms appear after above measures, immediately get medical advice or treatment.

## 5. Fire-fighting measures

Extinguishing methods: Cut off ignition sources and extinct by a suitable media.  
Suitable extinguishing media: Water (mist), powder, carbon dioxide, dry sand.

## 6. Accidental release measures

In case of outdoor use: avoid spill of reagent or waste solution.  
In case of indoor use: if spilled on a table or floor, wipe off immediately spilled reagent and dispose of them.

## 7. Handling and storage

Handling: Care should be made so that reagents will not contact with eyes or skin and to avoid ingestion.  
Especially for outdoor use, ensure to bring back reagents, waste solutions after the measurement and used Containers.  
Storage: Avoid direct sunlight and store in a well-ventilated, cool, dry, and dark place.

## 8. Exposure controls and personal protection

Administrative control level  
Working environment standard: Not established

Occupational exposure limits  
Japan Society for Occupational health: Not established  
ACGIH (TLVs): Not established  
OSHA (PEL): Not established

Protective equipment: Recommended to wear protective glasses and gloves.

## 9. Physical and chemical properties

Physical state: Tube containing powder reagent  
1.1 g x 50 tubes/kit (5 tubes per aluminum laminated packaging)  
Color: White (powder), semi-transparent (polyethylene tube)  
Odor: No odor  
pH: 6

Melting point, boiling point, flash point, ignition point, lower explosion limit, vapor pressure, density, relative density, solubility, Pow, kinetic viscosity: not available as a mixture.

## 10. Stability and reactivity

Avoid leaving in a place where high temperature, humid or under direct sunlight. Stable under normal use conditions and no dangerous reactions under specific conditions are expected. No information on hazardous decomposition product is available.

## 11. Toxicological information

No data on mixture is available. Data on each substance are shown.

1,10-Phenanthroline monohydrate (*o*-Phenanthroline):

Data on anhydride (CAS No. 66-71-7) are shown.

Acute toxicity: Intravenous-mouse LD<sub>50</sub> = 18 mg/kg, Intraperitoneal-mouse LD<sub>50</sub> = 75 mg/kg (RTECS)

Other data: Not available

Sodium L(+)-ascorbate:

Acute toxicity (free): Oral-rat LD<sub>50</sub> = 11,900 mg/kg

Other data: Not available

Polyethylene:

Acute toxicity:

Oral: Rat LD<sub>50</sub> > 7,950 mg/kg (used 7,950 mg/kg for the calculation of ATEmix below)

Carcinogenicity: IARC Group 3 (not classifiable as to carcinogenicity to humans).

Other data: Not available

GHS classifications as a mixture are shown below.

[Acute toxicity (oral)]

Not classified based on application of the additive equation of LD<sub>50</sub> values (rat) of each ingredient.

[Acute toxicity (dermal)], [Skin corrosion/ irritation], [Serious eye damage/ eye irritation], [Respiratory or skin sensitization], [Germ cell mutagenicity], [Carcinogenicity], [Reproductive toxicity], [Specific target organ toxicity (single exposure)], [Specific target organ toxicity (repeated exposure)], [Aspiration hazard]

Classifications are not possible because of data lack.

## 12. Ecological information

No data on mixture is available. Data on each substance are shown.

1,10-Phenanthroline monohydrate (*o*-Phenanthroline), Sodium L(+)-ascorbate, Polyethylene: No eco-toxicological information available.

GHS classifications as a mixture are shown below.

[Hazardous to the aquatic environment acute], [Hazardous to the aquatic environment chronic]

Classifications are not possible because of data lack.

[Harmful effects on the ozone layer]:

Classification is not possible because each of the substances is not described in Annex to Montreal Protocol.

## 13. Disposal considerations

Always dispose of in accordance with local regulations.

## 14. Transport information

In addition to precautionary measures regarding handling and storage, avoid rough handling so as not to break containers. It is recommended to ship by air because under high temperature for long period may lead to deterioration.

UN classification and number: Not applicable (This product contains less than 1% of 1,10-Phenanthroline monohydrate)

Civil Aeronautics Act: Not applicable

Poisonous and Deleterious Substances Control Act:

Not applicable

Fire Service Act: Not applicable

Total weight of the product: ca.140 g/kit

## 15. Regulatory information

PRTR Act: Not applicable

Industrial Safety and Health Act: Not applicable

## 16. Other information

### Reference literature

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Material Safety Data Sheet No.JW190125, Wako Pure Chemical Industries, Ltd. (2006.12.15)  
Material Safety Data Sheet No.JW160086, Wako Pure Chemical Industries, Ltd. (2008.08.27)  
Material Safety Data Sheet No.051110033, TOSOH CORPORATION (2004.07.09)  
Koukuu Kikenbutsu Yusou Houreisyu, Ed. MLIT, HOUBUN SHORIN CO., LTD. (2015)  
JIS Z 7252:2014 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)" (Japanese Industrial Standards Committee)  
JIS Z 7253:2012 Hazard communication of chemicals based on GHS-Labeling and Safety Data Sheet (SDS) (Japanese Industrial Standards Committee)  
UN GHS (tentative translation, forth revised version), GHS Kankei Syocho Renraku Kaigi (2011)  
Ministry of Economy, Trade and Industry, GHS Classification Guidance for Enterprises 2013 Revised Edition (2013)

NOTE) This information is not always exhaustive and use with care.  
This data sheet only provides information but any description cannot be warranted.  
Descriptions may possibly be changed because of new findings or modification of the current knowledge.  
Precautions only cover normal handling.  
This English SDS is prepared in the cooperation with the Chemicals Evaluation and Research Institute (CERI), Japan.