

## Safety Data Sheet

Reference No. 1014

Issue: 1<sup>st</sup> December 1998  
Revision: 30<sup>th</sup> July 2015

### 1. Chemical product and company identification

Product name	WATER it Test Kit Phenol	Model	WA-PNL
Company name	OPTEX CO.,LTD.		
Address	5-8-12, Ogoto Otsu Shiga 520-0101, Japan		
Tel	+81-77-579-8100		
Fax	+81-77-579-8136		
Section	Quality Control Dept.		

Recommended uses and restrictions    Reagent for water quality measurement

### 2. Hazards identification

**[GHS Classification]**

Physical hazards:            Classification not possible (no data for GHS classification available)

## Health hazards:

Serious eye damage/eye irritation:    Category 2 (applicable only K-1 reagent)

For those health hazards not listed above are not classified or classification not possible (no data for GHS classification available).

Environmental hazards: Not classified or classification not possible (no data for GHS classification available)

**[GHS labeling elements]****[Signal word]**

Warning

**[Hazard statements]**

Causes serious eye irritation. (applicable only K-1 reagent)

**[Precautionary statements]**

Keep out of reach of children and store in the cool, dry, and dark place.  
Carefully read instructions before use and do not use for other purposes.  
Wear personal protective equipment if necessary.  
Do not inhale reagent.  
Wash contaminated clothing.  
Wash hands well before and after handling.  
Avoid release to the environment.

### 3. Composition/ information on ingredients

Discrimination of single substance or mixture: Mixture

Reagent name	K-1 reagent		K-2 reagent			
	Water	Hydrogen peroxide	Peroxidase	4-Aminoantipyrine	Buffering agent	Polyethylene
Content	> 99%	< 1%	< 0.1%	< 0.1%	< 10%	> 89.8%
Chemical formula	H <sub>2</sub> O	H <sub>2</sub> O <sub>2</sub>	—	C <sub>11</sub> H <sub>13</sub> N <sub>3</sub> O	—	(C <sub>2</sub> H <sub>4</sub> ) <sub>n</sub>
METI No. (reference number under CSCL in Japan)	—	(1)-419 (2)-301	—	(9)-62	—	(6)-1
CAS No.	7732-18-5	7722-84-1	9003-99-0	83-07-8	—	9002-88-4

### 4. First-aid measures

If reagents or test solutions:

- Enter in eyes: Immediately rinse with water for more than 15 minutes followed by the treatment by an ophthalmologist.
- Contact with skin: Immediately wash out contaminated site with plenty of water.
- Enter into mouth: Immediately rinse mouth with plenty of water.

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

Especially in case ingested reagents or test solutions, drink plenty of milk or water and 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 avoid ingestion.  
Especially for outdoor use, ensure to bring back reagents, waste solutions after the measurement, and the 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): TWA 1 ppm, 1.4 mg/m<sup>3</sup> (only Hydrogen peroxide)

OSHA (PEL): TWA 1 ppm (only Hydrogen peroxide)

Protective equipment: Recommended to wear protective glasses and gloves

## 9. Physical and chemical properties

Physical state: K-1: Liquid reagent 2 mL x 1 poly-bottle in a poly bag  
K-2: Tube containing powder reagent  
1.1 g x 40 tubes/kit (5 tubes per aluminum laminated packaging)  
Color: K-1: colorless (liquid), K-2: white (powder), semi-transparent (polyethylene tube)  
Odor: No odor  
pH: 7 (K-1 reagent), 8 (final measurement solution)

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.

### K-1 reagent

#### Hydrogen peroxide:

Acute toxicity (oral): Classified as Category 4 based on data; calculated LD<sub>50</sub> = 311 mg/kg is obtained based on four data in rats (EU-RAR 2003).

Acute toxicity (dermal): Classified as Category 5 based on data; rat LD<sub>50</sub> = 4,060 mg/kg (EU-RAR, 2003).

Acute toxicity (inhalation): Classified as Category 3 based on data; rat LC<sub>50</sub> = 1,438 ppm is reported and the test is considered to be conducted as a vapor form because saturated vapor pressure of the substance is 1,980 ppm (EU-RAR, 2003).

Skin corrosion/ irritation: Classified as Category 1A – 1C based on data; It is reported that necrosis in whole skin layer after 3min, 1-hr or 4-hr applications in rabbits were observed or it is concluded that the substance is corrosive (EU-RAR 2003, ECETOC Special Report 10 1996). The substance is considered to be corrosive because EU classifies as R35 however detailed information to specify one of sub-categories is not available.

Serious eye damage/ eye irritation: Classified as Category 1 based on data; This substance is corrosive. It is reported that "caused severe irritation in an animal" test and "corrosive" (ECETOC JACC 1993, EU-RAR 2003).

Skin sensitization: Classification is not possible because sufficient data is not available. It is reported that negatives in two guinea pig studies (EU-RAR 2003, ECETOC JACC 1993), most of human volunteer were negative in patch tests. However two out of 158 cases were positive in human patch tests (EU-RAR 2003).

Germ cell mutagenicity: Not classified because; no data on human heritable epidemiological study, heritable mutagenicity study or *in vivo* germ cell mutagenicity study is available. Negative in mice micronucleus study (EU-RAR 2003, ECETOC Special Report 10 1996). No positive data is reported *in vivo* germ cell genotoxicity study.

Carcinogenicity: Not classified because; IARC and ACGIH classify as Group 3 and A3, respectively, and the classification is made according to the technical guidance i.e. the latest result by IARC is applied.

Reproductive toxicity: Classified as Category 2 based on following data; effects on human sperm was observed in an *in vitro* test (ECETOC JACC 1993), effects on sperm moving abilities, estrous cycle in female, decreased number of delivering mother animals and decreased body weight in new born child were reported in an animal test although no information on maternal toxicity was available (ECETOC JACC 1993).

Specific target organ toxicity (single exposure): Classified as Category 1 (central nervous system) based on the following data; Irritating to nose, throat and respiratory organs in animals (EU-RAR 2003) and humans (ACGIH 2001). In animal tests, blood stasis in lungs and airways, lung edema, emphysema and necrosis in tract epithelium were reported within the guidance value to classify category 1 (EU-RAR 2003, ECETOC Special Report 10 1996). In human cases, headache, dizziness, tremor, cramp, black sight, fainting and cerebral infarction were reported (ACGIH 2001, EU-RAR 2003).

Specific target organ toxicity (repeated exposure): Classified as Category 1 (lung) based on following data; it is reported that occasional fibrotic focus in lungs, pulmonary atelectasis and emphysema sites were observed in a dog inhalation test (EU-RAR 2003) and irritating to human lungs (ECETOC JACC 1993).

Classified as Category 2 (blood) based on data; Effects on white blood cell number, hematocrit value, and hemolysis were observed in a rat study within the guidance value to classify category 2 (EU-RAR 2003).

Other data: Not available

Water:

Acute toxicity:

Oral: Human-infant TDLo = 333 g/kg, cramping, attacks or fever.  
Human-men TDLo = 42.86 g/kg, shaking, mussel pain.  
Rat LD<sub>50</sub> > 90 mL/kg

Intravenous injection: Mouse- LD<sub>50</sub> = 25 g/kg

Intraperitoneal: Mouse- LD<sub>50</sub> = 190 g/kg

Other data: Not available.

K-2 reagent

Peroxidase:

No toxicological information is available.

4-Aminoantipyrine:

Acute toxicity:

Oral-rat: LD<sub>50</sub> = 1,700 mg/kg, Intraperitoneal-rat: LD<sub>50</sub> = 1,200 mg/kg (RTECS)

Oral-mouse: LD<sub>50</sub> = 800 mg/kg, Intraperitoneal-mouse: LD<sub>50</sub> = 270 mg/kg (RTECS)

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)]

K-1 reagent: Not classified based on application of the additive equation of LD<sub>50</sub> (rat) values of each ingredient.

K-2 reagent: Not classified based on application of the additive equation of LD<sub>50</sub> (rat) values of each ingredient.

[Serious eye damage/ eye irritation]

K-1 reagent: Classified as Category 2 (Warning, causes serious eye irritation.) based on application of the additive method.

K-1 reagent: [Acute toxicity (dermal)], [Acute toxicity (inhalation, vapor)], [Skin corrosion/ irritation], [Germ cell mutagenicity], [Carcinogenicity], [Reproductive toxicity], [Specific target organ toxicity (single exposure)], [Specific target organ toxicity (repeated exposure)]: Not classified based on data of ingredients.

K-1 reagent: [Respiratory or skin sensitization], [Aspiration hazard], K-2 reagent: [Acute toxicity (dermal)], [Acute toxicity (inhalation, vapor)], [Skin corrosion/ 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];  
Classification is not possible due to not enough data available.

## 12. Ecological information

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

K-1 reagent

Hydrogen peroxide:

[Hazardous to the aquatic environment- Acute]: Classified as Category 2 based on data that Crustacea (daphnia) 48-h EC<sub>50</sub> = 2.4 mg/L (EU-RAR 2003).

[Hazardous to the aquatic environment- Chronic]: Not classified because of rapid degradability in water.

Other data: Not available.

K-2 reagent

4-Aminoantipyrine, Peroxidase, Polyethylene: No eco-toxicological information available.

GHS classifications as a mixture are shown below.

[Hazardous to the aquatic environment - Acute]

K-1 reagent: Not classified because  $10 \times (< 1\%) = < 10\%$ , less than 25%.

[Hazardous to the aquatic environment - Chronic]

K-1 reagent: Not classified because all ingredients are not classified.

K-2 reagent [Hazardous to aquatic environment- Acute] and [Hazardous to aquatic environment- Chronic]:  
Classification is not possible due to not enough data available.

[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 the handling and the storage, avoid rough handling that may cause damaging the containers. It is recommended to ship by air because of the storage under high temperature for long period of time may lead to deterioration.

UN classification and number: Not applicable (this product contains less than 8% of Hydrogen peroxide)  
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: Applicable  
K-1 reagent contains more than 0.1% of hydrogen peroxide and is applicable as "Cabinet order table 9, shall be indicated the Name of the substance (article18-2) #634".

### 16. Other information

#### Reference literature

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Koukoku 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.