Safety Data Sheet

Reference No. 1052-2

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1. Chemical product and company identification

Product name PACKTEST PMD (Potassium Permanganate Consumption) Model WAK-PMD-2

Company name KYORITSU CHEMICAL-CHECK Lab., Corp.
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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:

Skin corrosion/irritation:	Category 1
Serious eye damage/eye irritation:	Category 1
Specific target organ toxicity - Single exposure:	Category 2(digestive tract)

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

Environmental hazards:

Hazardous to the aquatic environment, short-term (acute):	Not classified
Hazardous to the aquatic environment, long-term (chronic):	Not classified
Harmful effects on the ozone layer:	Classification not possible (no data for GHS classification available)

[GHS labeling elements**]**

[Signal word**]**

Danger

[Hazard statements**]**

Causes severe skin burns and eye damage.
Causes serious eye damage.
May cause damage to digestive tract.

[Precautionary statements**]**

Keep out of reach of children and store in the dry and dark place at room temperature.
Carefully read instructions before use and do not use for other purposes.
Wear personal protective equipment if necessary.
Do not inhale reagents.
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		
Chemical name	Sodium Sulfate	Other (not regulated)	Polyethylene
Content	5 – 9.9 %	0.1 – 0.49 %	90 - 99 %
Chemical formula	Na2SO4	―	(C2H4)n
METI No. (reference number under CSCL in Japan)	(1)-501	―	(6)-1
CAS No.	7757-82-6	―	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 from 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, immediately drink plenty of water or milk 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 (water spray), powder, carbon dioxide, and dry sand.

6. Accidental release measures

In case of outdoor use: Avoid spill of reagents and waste solutions.
In case of indoor use: If spilled on a table or floor, wipe off immediately spilled reagents and dispose of them.
Do not contact with eyes and skin. Concentrated waste solution should not be released into sewer or rivers.

7. Handling and storage

Handling: Do not inhale or ingest the reagent. Avoid contacting the reagent with eyes and skin.
Since the pH level of test solution will be alkaline of 13 or higher, avoid contact with eyes and skin, and do not ingest the solution.
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, dry and dark place at room temperature.

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

Engineering measures: In case indoor use it is recommended to be sealed exposure source or install local exhaust ventilation.
Install hand and eye washer near handling place and it is recommended to indicate the location.
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, aluminum laminated packaging each of 5 tubes
Color: Light red-purple color (powder), semi-transparent (polyethylene tube)
Odor: No odor
pH : 13 (at the measurement)

Melting point, boiling point, flash point, ignition point, lower explosion limit, vapor pressure, density, specific gravity, solubility, Log Pow, kinematic 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.

Sodium sulfate:
Acute toxicity (Oral): Not classified
LD50 for rats: >10,000 mg/kg (SIDS (2006))
Skin corrosion/irritation: Not classified
[Rationale for the Classification]
Based on (1) and (2), it was classified as "Not classified."
[Evidence Data]
(1) In a skin irritation test according to OECD TG 404 with rabbits, it was concluded as not irritating (SIDS (2006), REACH registration dossier (Access on September 2019)).
(2) This substance is not irritating to the skin and slightly irritating to the eyes. Sensitising effects are highly unlikely (SIDS (2006)).
Serious eye damage/eye irritation: Category 2B
Based on (1) and (2), it was classified in Category 2B.
(1) In an eye irritation test according to OECD TG 405 with rabbits, it was concluded to be slightly irritating, and all the effects were reversible within 7 days (SIDS (2006), REACH registration dossier (Access on September 2019)).
(2) This substance is not irritating to the skin and slightly irritating to the eyes. Sensitising effects are highly unlikely (SIDS (2006)).
Skin sensitization: Not classified
Based on (1) and (2), it was classified as "Not classified."
(1) In a skin sensitization test (maximization method) according to OECD TG 406 with guinea pigs, no skin reaction was observed, and it was concluded to be negative (REACH registration dossier (Accessed on September 2019)).
(2) This substance is not irritating to the skin and slightly irritating to the eyes. Sensitising effects are highly unlikely (SIDS (2006)).
Germ cell mutagenicity: Not classified
There is no in vivo data for this substance, however, based on the weight of evidence (WoE), according to (1), it was classified as "Not classified."
(1) As for in vitro, there are reports of negative results in a bacterial reverse mutation test and a mammalian cell chromosomal aberration test (SIDS (2006), Risk Assessment Report (Food additives)_Potassium sulfate (Food Safety Commission, 2013)). It is concluded, as a comprehensive decision, in the evaluation in Risk Assessment Report (Food additives) (Food Safety Commission, 2013) that the food additive "potassium sulfate (CAS RN 7778-80-5)" has no genotoxicity of any particular concern for living organisms since negative results were obtained in all tests using salts of sulfuric acid.
Specific target organ toxicity - Single exposure: Category 1 (gastrointestinal tract)
Based on (1), it was classified in Category 1 (gastrointestinal tract).

(1) This substance was once used as a laxative in humans for medical purposes in oral doses of about 300 mg/kg up to 20 g maximum, but it has been gradually abandoned due to severe diarrhea and abdominal cramping (SIDS (2006)).

Specific target organ toxicity - Repeated exposure: Not classified

Based on (1) and (2), it was classified as "Not classified" for the inhalation and oral routes.

(1) In a cross-sectional study among 119 male workers exposed to the dust of this substance for 2 months to 31 years, mean urinary excretion of inorganic sulfates exceeding 2.2 g/L in all workers was detected, and 30% of the workers excreted more than 3 g/day of inorganic sulfates. The only symptom indicated by the workers was nasal irritation and runny noses (SIDS (2006)).

(2) In a 4-week feeding study with male rats, no toxic effects were observed at up to the highest dose of ca. 2,000 mg/kg/day.

Polyethylene:

No toxicological information available.

GHS classifications as a mixture are shown below.

[Skin corrosion/ irritation]

pH of mixture $\geq$ 11.5: Category 1 (Danger, Causes severe skin burns and eye damage.)

[Serious eye damage/ eye irritation]

pH of mixture $\geq$ 11.5: Category 1 (Danger, Causes serious eye damage.)

[Specific target organ toxicity (single exposure)]

The content of Category 1(digestive tract) substance is 1% or more and less than 10%; classified as Category 2(digestive tract) (Warning, May cause damage to digestive tract.)

[Acute toxicity], [Respiratory or skin sensitizer], [Germ cell mutagenicity], [Carcinogenicity], [Reproductive toxicity], [Specific target organ toxicity (repeated exposure)], [Aspiration hazard]

Not classified or classification is not possible because of data lack.

12. Ecological information

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

Sodium sulfate:

Hazardous to the aquatic environment, short-term (acute): Not classified

It was classified as "Not classified" from 72-hour EC50 = 1,584.583 mg/L for algae (Pseudokirchneriella subcapitata) (AQUIRE, 2019, Simmons, 2012), 48-hour EC50 = 3,150.21 mg/L for crustacea (Ceriodaphnia dubia) (AQUIRE, 2019, Soucek, 2007), and 96-hour LC50 = 7,960 mg/L for fish (Pimephales promelas) (AQUIRE, 2019, Mount, 1997).

Hazardous to the aquatic environment, long-term (chronic): Not classified

It was classified as "Not classified" from 72-hour NOEC = 1,060 mg SO4/L (a converted value equivalent to NaSO4: 1,265 mg/L) for algae (Pseudokirchneriella subcapitata), 7-day NOEC = 610 mg SO4/L (a converted value equivalent to NaSO4: 728 mg/L) for crustacea (Ceriodaphnia dubia), and 31-day NOEC = 205 mg SO4/L for fish (Oncorhynchus mykiss) (a converted value equivalent to NaSO4: 245 mg/L) (all, AQUIRE, 2019, Elphick, 2011), although environmental dynamics of the inorganic compound is unknown.

Polyethylene:

No eco-toxicological information available.

GHS classifications as a mixture are shown below.

[Hazardous to the aquatic environment, short-term (acute)]

[Hazardous to the aquatic environment, long-term (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

The pH level of waste solution will be alkaline of 13 or higher. 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
Civil Aeronautics Act:	Not applicable
Fire Service Act:	Not applicable
Total weight of the product:	ca.140 g/kit

15. Regulatory information

Poisonous and Deleterious Substances Control Act: Not applicable
PRTR Act: Not applicable
Industrial Safety and Health Act: Applicable
This product contains more than 1% of Sodium Sulfate.
“Cabinet order, article18, shall be indicated the Name of the substance, #2”
“Cabinet order, article18-2, shall be notified the Name of the substance, #2”
Waste Disposal and Cleaning Act: Applicable
Since the pH of waste solution after measurement is more than 12.5, applicable as a “Special Controlled Industrial Waste” under the Act.

16. Other information

Reference literature

NITE, GHS Classification, ID:m-nite-7757-82-6_v1 Sodium sulfate
Safety Data Sheet No. A5111003300, TOSOH CORPORATION (2023.9.27)
Koukuu Kikenbutsu Yusou Houreisyu, Ed. MLIT, HOUBUN SHORIN CO., LTD. (2019)
JIS Z 7252:2019 Classification of chemicals based on “Globally Harmonized System of Classification and Labelling of Chemicals (GHS)” (Japanese Industrial Standards Committee)
JIS Z 7253:2019 Hazard communication of chemicals based on GHS-Labelling 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.