



### 3. Composition/ information on ingredients

Discrimination of single substance or mixture: Mixture

Reagent name	K-1 reagent		
Chemical name	Disodium Sulfate	Other (not regulated)	Polyethylene
Content	5 – 9.9 %	1 – 4.9 %	80 – 89.9 %
Chemical formula	Na <sub>2</sub> SO <sub>4</sub>	–	(C <sub>2</sub> H <sub>4</sub> ) <sub>n</sub>
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 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 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 (mist), powder, carbon dioxide, 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: Care should be made so that reagents will not contact with eyes or skin and to avoid ingestion. pHs of test solutions are lower than or equal to 2, acidic. Care should be made so as to avoid contact with eyes or skin. 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

Protective equipment: Recommended to wear protective glasses and gloves

## 9. Physical and chemical properties

Physical state: Tube containing powder reagent 1.1 g x 40 tubes/kit (5 tubes per one aluminum laminate packaging)  
Color: white (powder), semi-transparent (polyethylene tube)  
Odor: No odor  
pH:  $\leq 2$

Melting point, boiling point, flash point, ignition point, lower explosion limit, vapor pressure, density, specific gravity, 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 below.

Disodium sulfate:

Acute toxicity (Oral): Not classified on the following data.

LD50 for rats: >10,000 mg/kg (SIDS (2006))

Serious eye damage/eye irritation: Based on (1) and (2), it was classified in Category 2B.

(1) In an eye irritation test according to OECD TG 404 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. Sensitizing effects are highly unlikely (SIDS (2006)).

Specific target organ toxicity - Single exposure: 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)).

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.

[Skin corrosion/ irritation]

pH  $\leq 2$ ; Classified as Category 1 (Danger, Causes severe skin burns and eye damage.)

[Serious eye damage/ eye irritation]

pH  $\leq 2$ ; Classified as Category 1 (Danger, Causes serious eye damage.)

[Specific target organ toxicity (single exposure)]

Contains 1 to 10% of category 1 substance; Classified as Category 2 (Warning, May cause damage to gastrointestinal tract.)

[Acute toxicity (oral)], [Acute toxicity (inhalation: dust, mist)], [Acute toxicity (dermal)],

[Respiratory or skin sensitization], [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.

Disodium sulfate:

Hazardous to the aquatic environment, short term (acute): It was not classified on the following data.

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)

96-hour LC50 = 7,960 mg/L for fish (*Pimephales promelas*) (AQUIRE, 2019, Mount, 1997).

Hazardous to the aquatic environment, long term (chronic): It was not classified on the following data, although environmental dynamics of the inorganic compound is unknown..

72-hour NOEC = 1,060 mg SO<sub>4</sub>/L (a converted value equivalent to NaSO<sub>4</sub>: 1,265 mg/L) for algae (*Pseudokirchneriella subcapitata*)

7-day NOEC = 610 mg SO<sub>4</sub>/L (a converted value equivalent to NaSO<sub>4</sub>: 728 mg/L) for crustacea (*Ceriodaphnia dubia*)

31-day NOEC = 205 mg SO<sub>4</sub>/L for fish (*Oncorhynchus mykiss*) (a converted value equivalent to NaSO<sub>4</sub>: 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)]:

Classification 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

pHs of waste solution after the measurement are  $\leq 2$ , acidic.

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 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: Not applicable

## 16. Other information

Reference literature

15,911 no Kagaku Shouhin, The Chemical Diary Co., Ltd. (2011)

NITE, GHS Classification, ID m-nite-7757-82-6\_v1 Disodium Sulfate

Material Safety Data Sheet No.051110033, TOSOH CORPORATION (2004.07.09)

Koukoku Kikenbutsu Yusou Houeisyu, Ed. MLIT, HOUBUN SHORIN CO., LTD.(2023)

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-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.