

3. Composition/ information on ingredients

Discrimination of single substance or mixture: Mixture

Reagent name	K-1 reagent			
	Sodium Dichloroisocyanurate	Sodium Salicylate	Other (not regulated)	Polyethylene
Content	< 2%	< 10%	< 1%	> 87%
Chemical formula	C ₃ N ₃ O ₃ Cl ₂ Na	C ₇ H ₅ O ₃ Na	-	(C ₂ H ₄) _n
METI No. (reference number under CSCL in Japan)	(5)-1043	(3)-1639	-	(6)-1
CAS No.	2893-78-9	54-21-7	-	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

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 one aluminum laminate packaging)
Color: White (powder), semi-transparent (polyethylene tube)
Odor: Chlorine like odor
pH: 13

Melting point, boiling point, flash point, ignition point, lower explosion limit, vapor pressure, density, specific gravity, solubility, 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 Dichloroisocyanurate

Acute toxicity: Oral-rats: LD₅₀ 735 mg/kg, 1823 mg/kg (IUCALID (2000)), 1670 mg/kg (HSDB (2003))
Dermal-rats: LD₅₀ >5000 mg/kg bw (IUCALID (2000))
Dermal-rabbits: LD₅₀ >2000 mg/kg bw (IUCALID (2000))
Inhalation: Dusts and mists-rats: LC₅₀ >50 mg/L/1h (12.5 mg/L/4h) (IUCALID (2000))

Skin corrosion/ irritation:

In a rabbit test by application to the skin for 24-hour, the test substance was determined to be a non-irritant to intact skin and a moderate to moderately severe irritant to abraded skin (HSDB (2003)). Additionally, it was reported that the substance was "moderate irritating" in another rabbit test (Draize test) (IUCALID (2000)). Based on these results and a report that application to wet skin or application of the solution can cause "severe irritation" (SITTIG (5th, 2008)), the substance was classified into Category 2.

Serious eye damage/irritation:

Application into the conjunctival sac of rabbits at a dose level of 10 mg showed dull irises and corneas, and erythema sufficient to make individual blood vessels not easily discernible within 1-hour. Iris congestion remained until the 7th day. The test substance was determined to be a moderately severe irritant. Additionally, the substance is classified into Xi; R36/37 in EU classification (EU-Annex I (access on Sep. 2009)). Based on these information, the substance was classified into Category 2A.

Specific target organ toxicity - Single exposure

In a rat acute oral toxicity test (dosage 1450 - 1925 mg/kg, LD₅₀ = 1670 mg/kg), clinical signs including emaciation, weakness, lethargy, diarrhea and necropsy findings such as irritation of the gastrointestinal tract, tissue edema, and liver and kidney congestion were observed (HSDB (2003)). In a rabbit acute oral toxicity test (dosage: 1000 - 3000 mg/kg, minimal lethal dose: 2500 mg/kg), clinical signs including prostration, coma, salivation, lacrimation, labored breathing. Necropsy findings such as liver dysfunction, irritation of the digestive tract, and lung congestion were noted (HSDB (2003)). Based on a report that the oral toxicity is apparently due to corrosive action on the stomach (HSDB (2003)), these findings are considered to be systemic toxicity caused by the strong irritation to the digestive tract. Since death occurred at dose levels within the guidance value range for Category 2 and the affected organ cannot be identified, the substance was classified into Category 2 (systemic toxicity). In addition, based on reports of irritating to the upper respiratory tract, irritating to respiratory system or some bronchospasm as signs in human exposure (HSDB (2003)), the substance was classified into Category 3 (respiratory tract irritation).

Other data: Not available

Sodium Salicylate

Acute toxicity: Oral-rats: LD₅₀ = 1,200 mg/kg
Serious eye damage/irritation: 2B
Other data: Not available

Polyethylene:

Acute toxicity: Oral-rats: LD₅₀ > 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 classification as mixtures are shown below.

[Skin corrosion/ irritation]

The pH of the mixture is ≥ 11.5 . Category 1 (Danger, Causes severe skin burns and eye damage.)

[Serious eye damage/ eye irritation]

The pH of the mixture is ≥ 11.5 . Category 1 (Danger, Causes serious eye damage.)

[Reproductive toxicity]

The content of Category 1 substance is $\geq 0.3\%$. Category 1 (Danger, May damage fertility or the unborn child.)

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

From the data of ingredients, above hazard classes are "Not classified" or "Classification not possible".

12. Ecological information

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

Sodium Dichloroisocyanurate

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

Classified into Category 1 from its 48h-EC₅₀ = 0.11 mg/L for Crustacea (Daphnia magna) (AQUIRE, 2010).

Hazardous to the aquatic environment, long-term (chronic):

Classified into Category 1 since its acute toxicity is Category 1 and it is not rapidly degradable (BIOWIN).

No eco-toxicological data available; Sodium Salicylate and Polyethylene.

GHS classifications as a mixture are shown below.

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

[Hazardous to the aquatic environment, long-term (chronic)]

Not classified based on application of the additive equation.

[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

pH level of reacted 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 number: Not applicable
(Sodium Dichloroisocyanurate in this product is lower than 1%)

Civil Aeronautics Act : Not applicable

Fire Service Act : Not applicable

Total weight of the product: ca. 150 g/kit

15. Regulatory information

Poisonous and Deleterious Substances Control Act: Not applicable

PRTR Act: Not applicable

Industrial Safety and Health Act: Not Applicable

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

15,911 no Kagaku Shouhin, The Chemical Diary Co., Ltd. (2011)
NITE, GHS Classification Database, ID21A3717 (FY2009)
Safety Data Sheet No. W01W0119-0314 JGHEJP, Wako Pure Chemical Industries, Ltd. (2014.08.18)
Material Safety Data Sheet No. 051110033, TOSOH CORPORATION (2004.07.09)
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-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.