Safety Data Sheet

1. Product and Company Information

Product name : Ion Test Paper Cyan Check
Company : Toyo Roshi Kaisha, Ltd.
Head office : 1-18-10 Otowa, Bunkyo-ku, Tokyo, 112-0013 Japan
Section in charge : Quality Assurance Division
Phone : 81-(0)3-5981-0577
Fax : 81-(0)3-5981-0583
Emergency contact number : Same as above
Recommended application and product usage restrictions
: An ion detect
Reference No. : MC-0025J-10

2. Hazard Summary

GHS Classification
Physical hazard : Not applicable.
Human health hazard
Acute toxicity (Oral) : Not classified.
(Dermal) : Not classified.
(Inhalation: gas) : Not applicable.
(Inhalation: vapour) : Not applicable.
Serious eye damage and eye irritation
: Category 2.
Specific target organ toxicity - Single exposure
: Category 2. (Cardiovascular system, blood, liver, nervous system, kidney, respiratory organs)
Specific target organ toxicity - Repeated exposure
: Category 2. (Blood, kidney, respiratory organs)
Environmental hazard
Hazardous to the aquatic environment (acute)
: Category 3.
Hazardous to the aquatic environment (chronic)
: Category 3.
Label element
Pictograms or symbols :

Signal words : Warning.
Hazard statements : Causes serious eye irritation.
May cause damage to organs cardiovascular system, blood, liver, nervous system, kidney, respiratory organs.
May cause damage to organs through prolonged or repeated exposure: blood, kidney, respiratory organs.
Harmful to aquatic life.
Harmful to aquatic life with long lasting effects.

Precautionary statements

Safety measure : Do not eat, drink, or smoke when using this product.
Wash hands thoroughly after handling.
Wear appropriate protective gloves, clothes, glasses, and face shields.
Avoid release to the environment.
Do not handle until all safety precautions have been read and understood.

First aid measures : In case of eye contact, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Consult with a physician immediately.
If on skin, remove contaminated clothing and the substance. If skin irritation or rash occurs get medical treatment. Wash hands thoroughly after handing. If skin irritation or rash occurs: Get medical Advice.

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3. Composition and Information on ingredients

Single substance/Mixtures : Mixtures

Chemical name or general name : Test Paper

Ingredients and Content	: Cellulose	(Base paper)
	Copper(II) Sulfate Pentahydrate	(Reagent)
	Guaiacol	(Reagent)
	Alizarin Yellow R	(Reagent)
	Phenolphthalein	(Reagent)
	Methyl Orange	(Reagent)
Chemical formula or structural formula	: Cellulose	$(C_6H_{10}O_5)_n$
	Copper(II) Sulfate Pentahydrate	$CuSO_4 \cdot 5H_2O$
	Guaiacol	$C_7H_8O_2$
	Alizarin Yellow R	$C_{13}H_8N_3NaO_5$
	Phenolphthalein	$C_{20}H_{14}O_4$
	Methyl Orange	$C_{14}H_{14}N_3NaO_3S$

Reference Number in Gazetted List in Japan

Law Concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.	: Copper(II) Sulfate Pentahydrate	(1)-300
	Guaiacol	(3)-567
	Alizarin Yellow R	(5)-2054
	Phenolphthalein	(9)-1152
	Methyl Orange	(5)-4278
Japan's Industrial Safety and Health Law	: Alizarin Yellow R	4-(4)-343
		4-(4)-444
CAS No.	: Cellulose	9004-34-6
	Copper(II) Sulfate Pentahydrate	7758-99-8
	Guaiacol	90-05-1
	Alizarin Yellow R	2243-76-7
	Phenolphthalein	77-09-8
	Methyl Orange	547-58-0

UN Classification : ———

UN No. : ———

4. First Aid Measures

Eye contact	: Immediately wash thoroughly with clean running water. Then, consult with a physician.
Skin contact	: Immediately rinse the adhesion area and/or contact area with a copious amount of clean running water.
Inhalation	: Not applicable.
Ingestion	: The patient must drink a sufficient amount of water or salt water and then spit it out. Immediately consult with a physician.

5. Fire Fighting Measures

Extinguishing procedure	: Take the same procedure as a general fire.
Unacceptable extinguishing media	: No data available.
Extinguishing media	: Plenty of water (spray), dry chemicals, carbon dioxide, foam chemicals, and halogen media.

6. Accidental Release Measures

Personal precautions	: No data available.
Protective equipment and emergency procedures	: No data available.
Precautions for environment	: No data available.
Collection/neutralization	: No data.

Follow [Disposal Considerations] when disposing of the collected material.

7. Handling and Storage

Handling	: ———
Storage	: Avoid direct sunlight, store in a cool place, seal and avoid contact with air. Prevent moisture build up. Do not store with oxides and/or organic peroxides. Do not place near heat such as a boiler or combustibles.

8. Exposure controls / Personal protection

Administrative concentration	: ———
Acceptable concentration	
Japan Society for Occupational Health	: ———
ACGIH	: ———
Facility provision	: ———
Protective equipment	: Use appropriate protective tools if necessary.

9. Physical and Chemical Properties

Appearance (Physical property, shape, color, etc.)		: White. Yellow-green.
Odour		: None.
pH		: No data.
Melting point /Freezing point		: No data.
Flash point		: No data.
Explosive limit	Upper limit	: No data.
	Lower limit	: No data.
Relative density		: No data.
Solubility		: No data.
Spontaneous ignition point		: No data.
Decomposition temperature		: No data.
Flammability (Solid, gas)		: Yes.

10. Stability and Reactivity

Stability, Reactivity	: Stable under normal handling.
Possibility of hazardous reactions	: No data.
Conditions to avoid	: Direct sunlight, ultraviolet, wetting, high temperature, high humidity, open-air storage.
Incompatible materials	: Strong oxidizers, strong bases
Hazardous decomposition products	: Carbon monoxide, Carbon dioxide, Sulfur oxide, and Nitrogen oxides.

11. Toxicological Information

Acute toxicity

(Oral) : Not classified. (as mixtures)
Due to added result, acute toxicity estimated value (ATE) of above component in composite is determined.
(as a single substance)
Category3 ORL-RAT LD_{50}=60 mg/kg.
ORL-RBT LD_{50}=150 mg/kg. (Methyl Orange)
Category4 ORL-RAT LD_{50}=960 mg/kg.
(Copper(II) Sulfate Pentahydrate)
Category4 ORT-RAT LD_{50}:520 mg/kg.
ORT-HMN LDL_0:43 mg/kg. (Guaiacol)

(Dermal) : Not classified. (as mixtures)
Due to added result, acute toxicity estimated value (ATE) of above component in composite is determined.
(as a single substance)
Category5 SKN-RBT LD_{50}:4,600 mg/kg.
SKN-HMN LDL_0:28.6 mg/kg. (Guaiacol)

(Inhalation: gas) : Not applicable. (as mixtures)
Determined due to component concentration of mixture.

(Inhalation: vapour) : Not applicable. (as mixtures)
Determined due to component concentration of mixture.

(Inhalation: dust, mist) : Classification is not possible due to lack of data.

(Others) : IHL-MUS LC_{50}:7,570 mg/m^3/2H. (Guaiacol)

Skin corrosion/ Irritation: Not applicable. (as mixtures)
(as a single substance)
Category2 Causes skin irritation.
Based on the description in a report on human epidemiological studies, it causes pain, redness and though the severity of the effect is unknown.
The substance is considered a skin irritant, so it was classified as such.
(Copper(II) Sulfate Pentahydrate)
Category3 SKN-RBT 500 mg/24H SEV. (Guaiacol)

Serious eye damage and eye irritation
: Category2. (as mixtures)
(as a single substance)
Class2A Causes serious eye irritation.
Based on the description in a report on human epidemiological studies, it causes pain, redness and though the severity of the effect is unknown.
The substance is considered an irritant, so it was classified as such.
(Copper(II) Sulfate Pentahydrate)
Category1 EYE-RBT 5 mg MLD. (Guaiacol)

Respiratory/ Skin sensitization
: Not applicable. (as mixtures)
(as a single substance)
Category1 Skin sensitization.
It is classified into group 2 due to the copper contents or its compounds by the Japan Society for Occupational Health.
(Copper(II) Sulfate Pentahydrate)

Germ cell mutagenicity : Not applicable. (as mixtures)
(as a single substance)
Category2 Hereditary disease risk.
It has tested positive on somatic cells in vivo mutagenicity test (Chromosome aberration test). (Copper(II) Sulfate Pentahydrate)
Category 2 Hereditary disease risk.
Negative in in-vitro reverse mutation test and in-vitro sister chromatid exchange test. Positive in somatic cell in-vivo mutagenicity test. (micronucleus test) (Phenolphthalein)

Carcinogenicity : Classification is not possible due to lack of data. (as mixtures)
(as a single substance)
Category 2 Carcinogens risk .
IARC: 2B carcinogen. (Substance that has high possibility of carcinogenicity in human body with insufficient evidence) (Phenolphthalein)

Reproductive toxicity : Not applicable. (as mixtures)
(as a single substance)
Category2 Suspected of damaging fertility or the unborn children.
There is no data on general toxicity available regarding parental animals, however, effect malformation and postnatal development has been observed with the offspring.
(Copper(II) Sulfate Pentahydrate)
Class1B Risk of adverse effect to reproductive ability or to fetus.
(Phenolphthalein)

Specific target organ toxicity - Single exposure
: Category 2 Cardiovascular system, blood, liver, nervous system, kidney, respiratory organs. (as mixtures)
(as a single substance)
Category1 Cardiovascular system.
Category3 Narcotic effects. (Guaiacol)
Category1 Cause damage organs. (blood, liver, nervous system, kidney, respiratory organs) (Copper(II) Sulfate Pentahydrate)

Specific target organ toxicity - Repeated exposure
: Category 2. (blood, kidney, respiratory organs) (as mixtures)
(as a single substance)
Category1 Cause damage to organs (blood, kidney,respiratory organs) through prolonged or repeated exposure.
Category2 May cause damage to organs (liver) through prolonged or repeated Exposure. (Copper(II) Sulfate Pentahydrate)
Category 1 Intestinal disorder by long-time or repeated exposure. (Phenolphthalein)

Aspiration hazard : Classification is not possible due to lack of data.

Others : RTECS No. VO5310000 (Alizarin Yellow R)
SL7525000 (Guaiacol)

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12. Ecological Information

Ecotoxicity

Hazardous to the aquatic environment (acute)
: Category3. (as mixtures)
(as a single substance)
Category1 Ceridodaphnia quadrangla LC_{50}=0.00272 mg/L/48H. (Copper(II) Sulfate Pentahydrate)
Category3 Oryzias latipes LC_{50}>100 mg/L/96H.
Daphnia magna EC_{50}:29 mg/L/48H.
Selenastrum capricornutum EC_{50}:270 mg/L/72H. (Guaiacol)

Hazardous to the aquatic environment (chronic)
: Category3. (as mixtures)
(as a single substance)
Category3 Daphnia magna NOEC:0.75 mg/L/21D.
Selenastrum capricornutum NOEC:29 mg/L/72H (Guaiacol)

Persistence and Degradability
: No data.

Bioaccumulative potential
: No data.

Mobility in soil : No data.

Ozone layer hazard : Classification is not possible due to lack of data.

Others : Do not dispose or release to ocean or any other water area preventing environmental contamination and intake by marine and bird life.

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13. Disposal Considerations

Dispose in accordance with federal, state and local regulations.
Just like disposal of general industrial waste, ask for industrial waste disposer accepted by prefectural governors or for a local public agency for disposal.
When incinerating the material, use the specific incineration facility. Take appropriate procedure that satisfies Clean Air Act, Waste Disposal and Public Cleaning Law, and Clean Water Law. (We recommend disposing the material as industrial waste.)

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14. Transport Information

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15. Regulatory Information

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

: Class 2 designated chemical substance (Cabinet Order No.74)
(Phenolphthalein)
Class 1 designated chemical substance (Cabinet Order No.272)
(Copper (II) Sulfate Pentahydrate)

Industrial Safety and Health Law : Article 57-2 Section 1, Appendix 9 (Cabinet Order No.379)
(Copper (II) Sulfate Pentahydrate)

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16. Other information

Handling of written contents

Contents of this data sheet are based on materials, information, and data acquirable at this point and are subject to revision due to new knowledge.

In addition, contents such as contained amount, physical and chemical properties, and hazards identification are not subject of any guarantee. These precautions are applied only during standard handling. If the material is used in a special way, take appropriate safety measures that correspond to actual applications and usages.

Each user is responsible to take appropriate measures with due consideration of contents in this sheet.

Please note that this Safety Data Sheet is created according to Japanese law.

List of references

- Hazard communication of chemicals based on GHS - Labelling and Safety Data Sheet (SDS) (JIS Z 7253: 2012)
