

Date of issue: 27/11/2017

Safety Data Sheet

 Identification of the substance/mixture and of the company/undertaking Product identifier: Product name: Uranine solution Product code(SDS NO): F0048E-1 Details of the supplier of the safety data sheet Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD. Address: 3-1, Honmachibashi, Chuo-ku,Osaka 540-0029,JAPAN Division: Safety Management Dept. of Chemicals Telephone number: +81-6-6946-8061 FAX: +81-6-6946-1607 e-mail address: kagakuhinanzenkanri@kishida.co.jp

 Hazards identification GHS classification and label elements of the product Classification of the substance or mixture (Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

3. Composition/information on ingredients Mixture/Substance selection: Mixture Ingredient name:Uranine Content(%):0.20 Chemical formula:C20H10Na2O5 Chemicals No, Japan:5-673 CAS No.:518-47-8

> Ingredient name:Water Content(%):99 Chemical formula:H2O CAS No.:7732-18-5 MW:18.02 ECNO:231-791-2 Note : The figures shown above are not the specifications of the product.

4. First-aid measures

MW:376.28 ECNO:208-253-0

Descriptions of first-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN(or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.



IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.

Call a POISON CENTER or doctor/physician if you feel unwell.

| 5. Fire-fighting measures |
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| Extinguishing media |
| Suitable extinguishing media |
| Use appropriate extinguishing media suitable for surrounding facilities. |
| Specific hazards arising from the substance or mixture |
| Containers may explode when heated. |
| Fire may produce irritating, corrosive and/or toxic gases. |
| Advice for firefighters |
| Specific fire-fighting measures |
| Evacuate non-essential personnel to safe area. |
| Special protective equipment and precautions for fire-fighters |
| Wear fire/flame resistant/retardant clothing. |
| Wear protective gloves/protective clothing/eye protection/face protection. |
| Firefighters should wear self-contained breathing apparatus with full face peace operated |
| positive pressure mode. |
| |

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area after material pick up is complete.

Wear proper protective equipment.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures (Protective measures against fire & explosion) Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Exhaust/ventilator Exhaust/ventilator should be available. Safety treatments Avoid contact with skin. Avoid contact with eyes. Safety Measures/Incompatibility

Wear protective gloves, protective clothing or face protection.

When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.



| 8. Exposure controls/personal protection |
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| Exposure controls |
| Appropriate engineering controls |
| Do not use in areas without adequate ventilation. |
| Eye wash station should be available. |
| Washing facilities should be available. |
| Individual protection measures |
| Respiratory protection |
| Wear respiratory protection. |
| Hand protection |
| Wear protective gloves. |
| Eye protection |
| Wear eye/face protection. |

9. Physical and Chemical Properties Information on basic physical and chemical properties Physical properties Appearance: Liquid Color: Yellow-green, clear Odor data N.A. Phase change temperature Initial Boiling Point/Boiling point data N.A. Melting point/Freezing point data N.A. Decomposition temperature data N.A. Flash point data N.A. Auto-ignition temperature data N.A. Explosive properties data N.A. Vapor pressure data N.A. Vapor density data N.A. Specific gravity/Density: 1.00g/cm3 Solubility Solubility in water: Miscible n-Octanol /water partition coefficient data N.A.

Stability and Reactivity
 Chemical stability
 Stable under normal storage/handling conditions.
 Conditions to avoid
 Contact with fire source.

11. Toxicological Information
 Information on toxicological effects
 Acute toxicity
 Acute toxicity (Oral)
 [Company proprietary data]
 (Uranine)
 rat LD50=6700 mg/kg
 No Irritant properties data available
 No Allergenic and sensitizing effects data available



- No Mutagenic effects data available
- No Carcinogenic effects data available
- No Teratogenic effects data available
- No reproductive toxicity data available
- No STOT-single/repeated exposure data available
- No Aspiration hazard data available

12. Ecological Information

Toxicity
No Aquatic toxicity data available
No Persistence and degradability data available
No Bioaccumulative potential data available
No Mobility in soil data available
Ozone depleting chemical data not available

13. Disposal considerations

Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

Not applicable to UN NO.

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code Non Noxious Liquid ; Cat. OS Water

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture US major regulations TSCA Uranine; Water Other regulatory information Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

The product is not applicable to GHS classifications.

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012) 2012 EMERGENCY RESPONSE GUIDEBOOK(US DOT) 2017 TLVs and BEIs. (ACGIH) http://monographs.iarc.fr/ENG/Classification/index.php Supplier's data/information

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own



purposes.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2015).