



## Safety Data Sheet

### 1. Identification of the substance/mixture and of the company/undertaking

#### Product identifier:

Product name: Indigo carmine solution

SDS No. : G0041E-1

#### Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, 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

### 2. Hazards identification

#### GHS classification and label elements of the product

#### Classification of the substance or mixture

##### PHYSICAL AND CHEMICAL HAZARDS

Flammable liquids: Category 3

##### HEALTH HAZARDS

Serious eye damage/eye irritation: Category 2B

Carcinogenicity: Category 1A

Reproductive toxicity: Category 1A

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

Specific target organ toxicity – single exposure: Category 3 (Narcosis)

Specific target organ toxicity – repeated exposure: Category 1 (liver)

Specific target organ toxicity – repeated exposure: Category 2 (CNS)

(Note) GHS classification without description: Not classified/Classification not possible

#### Label elements



Signal word: Danger

#### HAZARD STATEMENT

Flammable liquid and vapor

Causes eye irritation

May cause cancer

May damage fertility or the unborn child

May cause respiratory irritation

May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure (liver)

May cause damage to organs through prolonged or repeated exposure (CNS)

#### PRECAUTIONARY STATEMENT

##### Prevention

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.





Take precautionary measures against static discharge.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
Wash contaminated parts thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Do not eat, drink or smoke when using this product.

**Response**

In case of fire: Use appropriate media other than water for extinction.  
Get medical advice/attention if you feel unwell.  
IF exposed or concerned: Get medical advice/attention.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
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.

**Storage**

Store in a well-ventilated place. Keep container tightly closed. Keep cool.

**Disposal**

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

**Specific Physical and Chemical hazards**

Flammable liquid. Vapor/air mixture may explode.

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**3. Composition/information on ingredients****Mixture/Substance selection:****Mixture**

Ingredient name: Indigo carmine  
Content (%): 0.27  
Chemical formula:  $C_{16}H_8N_2Na_2O_8S_2$   
Chemicals No, Japan: 5-1650  
CAS No.: 860-22-0  
MW: 466.35  
ECNO: 212-728-8

Ingredient name: Ethanol  
Content (%): 40  
Chemical formula:  $C_2H_5OH$   
Chemicals No, Japan: 2-202  
CAS No.: 64-17-5  
MW: 46.07  
ECNO: 200-578-6

Ingredient name: Water  
Content (%): 59  
Chemical formula:  $H_2O$   
CAS No.: 7732-18-5  
MW: 18.02  
ECNO: 231-791-2

Note : The figures shown above are not the specifications of the product.





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#### 4. First-aid measures

##### Descriptions of first-aid measures

###### General measures

Get medical attention/advice if you feel unwell.

###### 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.

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#### 5. Fire-fighting measures

##### Extinguishing media

###### Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media data is not available.

##### 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 piece operated positive pressure mode.

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#### 6. Accidental release measures

##### Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

##### Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

##### 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.

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#### 7. Handling and storage

##### Precautions for safe handling

###### Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)





Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

#### Safety Measures

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

When using do not eat, drink or smoke.

#### Any incompatibilities

See "10.Stability and Reactivity"

#### Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

#### Storage

##### Conditions for safe storage

Keep container tightly closed.

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

##### Container and packaging materials for safe handling

Glass

Polyethylene

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## 8. Exposure controls/personal protection

### Control parameters

#### Adopted value

(Ethanol)

ACGIH(2008) STEL: 1000ppm (URT irr)

#### OSHA-PEL

(Ethanol)

TWA: 1000ppm, 1900mg/m<sup>3</sup>

### 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.





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## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Physical state: Liquid

Color: Blue

Odor: Characteristic odor

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point: about 26°C

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Soluble

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Density and/or relative density: 0.93

Relative vapor density (Air=1) data is not available.

No Particle characteristics data is not available.

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## 10. Stability and Reactivity

### Reactivity

Not available.

### Chemical stability

Stable under normal storage/handling conditions.

### Possibility of hazardous reactions

(Ethanol)

The vapour mixes well with air, explosive mixtures are easily formed.

Reacts slowly with calcium hypochlorite, silver oxide and ammonia. This generates fire and explosion hazard. Reacts violently with strong oxidants such as nitric acid, silver nitrate, mercuric nitrate and magnesium perchlorate. This generates fire and explosion hazard. (ICSC 0044)

### Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

### Incompatible materials

Strong oxidizing agents, Calcium hypochlorite, silver oxide, Ammonia

### Hazardous decomposition products

Carbon oxides

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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

Acute toxicity (Oral)

[Company proprietary data]

(Indigo carmine)

rat LD50=2,000mg/kg

#### Irritant properties





Skin corrosion/irritation data is not available.

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Ethanol)

rabbit recover within 7 days (ECETOC TR No.48(2), 1998 et al)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[GHS Cat. Japan, base data]

(Ethanol)

cat.1A; (IARC, 2010)

(Ethanol)

IARC-Gr.1 : Carcinogenic to humans

(Ethanol)

ACGIH-A3(2008) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive toxicity

[GHS Cat. Japan, base data]

(Ethanol)

cat. 1A; human : PATTY 6th, 2012

STOT

STOT-single exposure

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Ethanol)

respiratory tract irritation (PATTY 6th, 2012)

[cat.3 (drow./dizz.)]

[GHS Cat. Japan, base data]

(Ethanol)

narcotic effect (PATTY 6th, 2012; SIDS, 2005)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(Ethanol)

liver (DFGOT vol.12, 1999)

[cat.2]

[GHS Cat. Japan, base data]

(Ethanol)

CNS (HSDB, Access on Jun. 2013)

Aspiration hazard data is not available.

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## 12. Ecological Information

Ecotoxicity

Aquatic toxicity

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Ethanol)

Algae (Chlorella) EC50=1000mg/L/96hr (SIDS, 2005)

Hazardous to the aquatic environment (Long-term)

[GHS Cat. Japan, base data]

(Ethanol)

Crustacea (Ceriodaphnia reticulata) NOEC=9.6mg/L/10days (SIDS, 2005)

Water solubility

(Ethanol)





miscible (ICSC, 2000)  
Persistence and degradability  
(Ethanol)  
Degrade rapidly (BOD\_Degradation : 89% (Registered chemicals data check & review, 1993))  
Bioaccumulative potential  
(Ethanol)  
log Pow=-0.32 (ICSC, 2000)  
Mobility in soil  
Mobility in soil data is not available.  
Other adverse effects  
Ozone depleting chemical data is not available.

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### 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging  
Waste treatment methods  
Dispose of contents/container in accordance with local/national regulation.

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### 14. Transport Information

UN No.: 1170  
Proper Shipping Name :  
ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
Class or division : 3  
Packing group : III  
ERG GUIDE No.: 127  
Special provisions No.: 144; 223  
IMDG Code (International Maritime Dangerous Goods Regulations)  
UN No.: 1170  
Proper Shipping Name :  
ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
Class or division : 3  
Packing group : III  
Special provisions No.: 144; 223  
IATA Dangerous Goods Regulations  
UN No.: 1170  
Proper Shipping Name :  
ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
Class or division : 3  
Hazard labels : Flamm.liquid  
Packing group : III  
Special provisions No.: A3; A58; A180  
Environmental hazards  
MARPOL Annex III – Prevention of pollution by harmful substances  
Marine pollutants (yes/no) : no  
MARPOL Annex V – Prevention of pollution by garbage discharge  
Carcinogenicity: cat.1, 1A, 1B  
Ethanol  
Reproductive toxicity: cat.1, 1A, 1B  
Ethanol  
Specific target organ toxicity – repeated exposure: cat.1  
Ethanol  
Transport in bulk according to Annex II of MARPOL73/78 and IBC Code





Noxious Liquid ; Cat. Z  
Ethanol  
Non Noxious Liquid ; Cat. OS  
Water

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#### 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal Regulations

Chemicals listed in TSCA Inventory

Ethanol; Indigo carmine; Water

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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#### 16. Other information

GHS classification and labelling

Flam. Liq. 3: H226 Flammable liquid and vapor

Eye Irrit. 2B: H320 Causes eye irritation

Carc. 1A: H350 May cause cancer

Repr. 1A: H360 May damage fertility or the unborn child

STOT SE 3: H335 May cause respiratory irritation

STOT SE 3: H336 May cause drowsiness or dizziness

STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (61th Edition) 2020

Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2020 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

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 2019).