

Creation Date 06-Nov-2015

Revision Date 30-Jul-2013

Revision Number 1

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification

Product Description: Protocol Safranin Stain
Cat No. : 23-255-963, 23-270-183, 23-291-476, 23-291-471, 23-005-83
Synonyms Safranin

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals.
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company Richard Allan Scientific
A Subsidiary of Thermo Fisher Scientific
4481 Campus Drive
Kalamazoo, MI 49008
Tel: (800) 522-7270
E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

Chemtrec US: (800) 424-9300
Chemtrec EU: 001 (202) 483-7616

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Flammable liquids

Category 3

Health hazards

Specific target organ toxicity - (single exposure)

Category 2

Environmental hazards

Based on available data, the classification criteria are not met

2.2. Label elements



SAFETY DATA SHEET

Protocol Safranin Stain

Revision Date 30-Jul-2013

Signal Word

Warning

Hazard Statements

H226 - Flammable liquid and vapor
H371 - May cause damage to organs

Precautionary Statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P309 + P311 - If exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

2.3. Other hazards

No information available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS-No | EC-No. | Weight % | CLP Classification - Regulation (EC) No 1272/2008 |
|-----------------------|-----------|-------------------|----------|--------------------------------------------------------------------------------------------------------------|
| Water | 7732-18-5 | 231-791-2 | 80-85 | - |
| Ethyl alcohol | 64-17-5 | 200-578-6 | 16 - 18 | Flam. Liq. 2 (H225) |
| Methyl alcohol | 67-56-1 | 200-659-6 | 1 - 2 | Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370) |
| Safranin O, certified | 477-73-6 | EEC No. 207-518-8 | < 1 | Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) |

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Ingestion

Do not induce vomiting. Obtain medical attention.

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Protection of First-aiders

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

4.2. Most important symptoms and effects, both acute and delayed

Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically.

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SAFETY DATA SHEET

Protocol Safranin Stain

Revision Date 30-Jul-2013

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂).

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional ecological information. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Take precautionary measures against static discharges.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

100000000100505

SAFETY DATA SHEET

Protocol Safranin Stain

Revision Date 30-Jul-2013

8.1. Control parameters

Exposure limits

| Component | European Union | The United Kingdom | France | Belgium | Spain |
|----------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Ethyl alcohol | | TWA: 1000 ppm TWA; 1920 mg/m ³ TWA WEL - STEL: 3000 ppm STEL; 5760 mg/m ³ STEL | TWA / VME: 1000 ppm (8 heures). TWA / VME: 1900 mg/m ³ (8 heures). STEL / VLCT: 5000 ppm. STEL / VLCT: 9500 mg/m ³ . | TWA: 1000 ppm 8 uren TWA: 1907 mg/m ³ 8 uren | STEL / VLA-EC: 1000 ppm (15 minutos). STEL / VLA-EC: 1910 mg/m ³ (15 minutos). |
| Methyl alcohol | TWA: 200 ppm 8 hr TWA: 260 mg/m ³ 8 hr Skin | WEL - TWA: 200 ppm TWA; 266 mg/m ³ TWA WEL - STEL: 250 ppm STEL; 333 mg/m ³ STEL | TWA / VME: 200 ppm (8 heures). restrictive limit TWA / VME: 260 mg/m ³ (8 heures). restrictive limit STEL / VLCT: 1000 ppm. STEL / VLCT: 1300 mg/m ³ . Peau | TWA: 200 ppm 8 uren TWA: 266 mg/m ³ 8 uren STEL: 250 ppm 15 minuten STEL: 333 mg/m ³ 15 minuten Huid | TWA / VLA-ED: 200 ppm (8 horas) TWA / VLA-ED: 266 mg/m ³ (8 horas) Piel |

| Component | Italy | Germany | Portugal | The Netherlands | Finland |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethyl alcohol | | 500 ppm TWA; 960 mg/m ³ TWA | TWA: 1000 ppm 8 horas | huid STEL: 1900 mg/m ³ 15 minuten TWA: 260 mg/m ³ 8 uren | TWA: 1000 ppm 8 tunteina TWA: 1900 mg/m ³ 8 tunteina STEL: 1300 ppm 15 minuutteina STEL: 2500 mg/m ³ 15 minuutteina |
| Methyl alcohol | TWA: 200 ppm 8 ore. Media Ponderata nel Tempo TWA: 260 mg/m ³ 8 ore. Media Ponderata nel Tempo Pelle | 200 ppm TWA; 270 mg/m ³ TWA Skin absorber | STEL: 250 ppm 15 minutos TWA: 200 ppm 8 horas TWA: 260 mg/m ³ 8 horas Pele | huid TWA: 133 mg/m ³ 8 uren TWA: 100 ppm 8 uren | TWA: 200 ppm 8 tunteina TWA: 270 mg/m ³ 8 tunteina STEL: 250 ppm 15 minuutteina STEL: 330 mg/m ³ 15 minuutteina Iho |

| Component | Austria | Denmark | Switzerland | Poland | Norway |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethyl alcohol | MAK-KZW: 2000 ppm 15 Minuten MAK-KZW: 3800 mg/m ³ 15 Minuten MAK-TMW: 1000 ppm 8 Stunden MAK-TMW: 1900 mg/m ³ 8 Stunden | TWA: 1000 ppm 8 timer TWA: 1900 mg/m ³ 8 timer | STEL: 1000 ppm 15 Minuten STEL: 1920 mg/m ³ 15 Minuten TWA: 500 ppm 8 Stunden TWA: 960 mg/m ³ 8 Stunden | TWA: 1900 mg/m ³ 8 godzinach | TWA: 500 ppm 8 timer TWA: 950 mg/m ³ 8 timer STEL: 500 ppm 15 minutter. STEL: 950 mg/m ³ 15 minutter. |
| Methyl alcohol | Haut MAK-KZW: 800 ppm 15 Minuten MAK-KZW: 1040 mg/m ³ 15 Minuten MAK-TMW: 200 ppm 8 Stunden MAK-TMW: 260 mg/m ³ 8 Stunden | TWA: 200 ppm 8 timer TWA: 260 mg/m ³ 8 timer Hud | Haut/Peau STEL: 800 ppm 15 Minuten STEL: 1040 mg/m ³ 15 Minuten TWA: 200 ppm 8 Stunden TWA: 260 mg/m ³ 8 Stunden | STEL: 300 mg/m ³ 15 minutach TWA: 100 mg/m ³ 8 godzinach | TWA: 100 ppm 8 timer TWA: 130 mg/m ³ 8 timer STEL: 100 ppm 15 minutter. STEL: 130 mg/m ³ 15 minutter. Hud |

| Component | Bulgaria | Croatia | Ireland | Cyprus | Czech Republic |
|---------------|-----------------------------|--------------------------------------------------------------------------------|-----------------------|--------|-------------------------------------------------------------------------------|
| Ethyl alcohol | TWA: 1000 mg/m ³ | TWA-GVI: 1000 ppm 8 satima. TWA-GVI: 1900 mg/m ³ 8 satima. | STEL: 1000 ppm 15 min | | TWA: 1000 mg/m ³ 8 hodinách. Ceiling: 3000 mg/m ³ |

100000000100505

SAFETY DATA SHEET

Protocol Safranin Stain

Revision Date 30-Jul-2013

| | | | | | |
|----------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Methyl alcohol | TWA: 200 ppm TWA: 260.0 mg/m ³ Skin notation | kože TWA-GVI: 200 ppm 8 satima. TWA-GVI: 260 mg/m ³ 8 satima. | TWA: 200 ppm 8 hr. TWA: 260 mg/m ³ 8 hr. STEL: 600 ppm 15 min STEL: 780 mg/m ³ 15 min Skin | Skin-potential for cutaneous absorption TWA: 200 ppm TWA: 260 mg/m ³ | TWA: 250 mg/m ³ 8 hodinách. Potential for cutaneous absorption Ceiling: 1000 mg/m ³ |
|----------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|

| Component | Estonia | Gibraltar | Greece | Hungary | Iceland |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethyl alcohol | TWA: 500 ppm 8 tundides. TWA: 1000 mg/m ³ 8 tundides. STEL: 1000 ppm 15 minutites. STEL: 1900 mg/m ³ 15 minutites. | | TWA: 1000 ppm TWA: 1900 mg/m ³ | STEL: 7600 mg/m ³ 15 percekben. CK TWA: 1900 mg/m ³ 8 órában. AK | TWA: 1000 ppm 8 klukkustundum. TWA: 1900 mg/m ³ 8 klukkustundum. Ceiling: 2000 ppm Ceiling: 3800 mg/m ³ |
| Methyl alcohol | Nahk TWA: 200 ppm 8 tundides. TWA: 260 mg/m ³ 8 tundides. STEL: 250 ppm 15 minutites. STEL: 350 mg/m ³ 15 minutites. | Skin notation TWA: 200 ppm 8 hr TWA: 260 mg/m ³ 8 hr | skin - potential for cutaneous absorption STEL: 250 ppm STEL: 325 mg/m ³ TWA: 200 ppm TWA: 260 mg/m ³ | TWA: 260 mg/m ³ 8 órában. AK lehetséges bőrön keresztüli felszívódás | TWA: 200 ppm 8 klukkustundum. TWA: 260 mg/m ³ 8 klukkustundum. Skin notation Ceiling: 400 ppm Ceiling: 520 mg/m ³ |

| Component | Latvia | Lithuania | Luxembourg | Malta | Romania |
|----------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Ethyl alcohol | TWA: 1000 mg/m ³ | TWA: 500 ppm IPRD TWA: 1000 mg/m ³ IPRD STEL: 1000 ppm STEL: 1900 mg/m ³ | | | TWA: 1000 ppm 8 ore TWA: 1900 mg/m ³ 8 ore STEL: 5000 ppm 15 minute STEL: 9500 mg/m ³ 15 minute |
| Methyl alcohol | skin - potential for cutaneous exposure TWA: 200 ppm TWA: 260 mg/m ³ | TWA: 200 ppm IPRD TWA: 260 mg/m ³ IPRD Oda | Possibility of significant uptake through the skin TWA: 200 ppm 8 Stunden TWA: 260 mg/m ³ 8 Stunden | possibility of significant uptake through the skin TWA: 200 ppm TWA: 260 mg/m ³ | Skin notation TWA: 200 ppm 8 ore TWA: 260 mg/m ³ 8 ore STEL: 5 ppm 15 minute |

| Component | Russia | Slovak Republic | Slovenia | Sweden | Turkey |
|----------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Ethyl alcohol | TWA: 1000 mg/m ³ STEL: 2000 mg/m ³ vapor | Ceiling: 1920 mg/m ³ TWA: 500 ppm TWA: 960 mg/m ³ | TWA: 1000 ppm 8 urah TWA: 1900 mg/m ³ 8 urah STEL: 4000 ppm 15 minutah STEL: 7600 mg/m ³ 15 minutah | STV: 1000 ppm 15 minuter STV: 1900 mg/m ³ 15 minuter LLV: 500 ppm 8 timmar. LLV: 1000 mg/m ³ 8 timmar. | |
| Methyl alcohol | TWA: 5 mg/m ³ Skin notation STEL: 15 mg/m ³ vapor | Potential for cutaneous absorption TWA: 200 ppm TWA: 260 mg/m ³ | TWA: 200 ppm 8 urah TWA: 260 mg/m ³ 8 urah Koža | STV: 250 ppm 15 minuter STV: 350 mg/m ³ 15 minuter LLV: 200 ppm 8 timmar. LLV: 250 mg/m ³ 8 timmar. Hud | Deri TWA: 200 ppm 8 saat TWA: 260 mg/m ³ 8 saat |

Biological limit values

| Component | European Union | United Kingdom | France | Spain | Germany |
|----------------|----------------|----------------|-----------------------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Methyl alcohol | | | Methanol: 15 mg/L urine end of shift | Methanol: 15 mg/L urine end of shift | Methanol: 30 mg/L urine (end of shift) Methanol: 30 mg/L urine (end of several shifts for long-term exposures) |

| Component | Italy | Finland | Denmark | Bulgaria | Romania |
|-----------|-------|---------|---------|----------|---------|
|-----------|-------|---------|---------|----------|---------|

100000000100505

SAFETY DATA SHEET

Protocol Safranin Stain

Revision Date 30-Jul-2013

| | | | | | |
|----------------|--|--|--|--|----------------------------------------|
| Methyl alcohol | | | | | Methanol: 6 mg/L urine end of shift |
|----------------|--|--|--|--|----------------------------------------|

| Component | Gibraltar | Latvia | Slovak Republic | Luxembourg | Turkey |
|----------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|------------|--------|
| Methyl alcohol | | | Methanol: 30 mg/L urine end of exposure or work shift Methanol: 30 mg/L urine after all work shifts for long-term exposure | | |

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

Derived No Effect Level (DNEL) No information available

| Route of exposure | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|------------------------------|-----------------------|--------------------------|-------------------------|----------------------------|
| Oral Dermal Inhalation | | | | |

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Tightly fitting safety goggles (European standard - EN 166)

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|-------------------|-----------------------------------|-----------------|-------------|-----------------------|
| Disposable gloves | See manufacturers recommendations | - | EN 374 | (minimum requirement) |

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use

In case of insufficient ventilation wear suitable respiratory equipment

Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. When RPE is used a face piece Fit Test should be conducted

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

100000000100505

SAFETY DATA SHEET

Protocol Safranin Stain

Revision Date 30-Jul-2013

Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | | |
|-----------------------------------------|------------------------------|-----------------------------------|
| Appearance | Red | |
| Physical State | Liquid | |
| Odor | Alcohol-like, pungent | |
| Odor Threshold | No data available | |
| pH | No information available | |
| Melting Point/Range | No data available | |
| Softening Point | No data available | |
| Boiling Point/Range | 95 °C / 203 °F | |
| Flash Point | 27.78 - 36 °C / 82 - 96.8 °F | Method - No information available |
| Evaporation Rate | No data available | |
| Flammability (solid,gas) | No information available | |
| Explosion Limits | No data available | |
| Vapor Pressure | No data available | |
| Vapor Density | No data available | (Air = 1.0) |
| Specific Gravity / Density | 1 | |
| Bulk Density | No data available | |
| Water Solubility | No information available | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Component | log Pow | |
| Ethyl alcohol | -0.32 | |
| Methyl alcohol | -0.74 | |
| Autoignition Temperature | No data available | |
| Decomposition Temperature | No data available | |
| Viscosity | No data available | |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.
Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Incompatible products. Heat, flames and sparks.

10.5. Incompatible materials

Strong oxidizing agents. Acids. Acid anhydrides. Acid chlorides. Peroxides. Metals.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

100000000100505

SAFETY DATA SHEET

Protocol Safranin Stain

Revision Date 30-Jul-2013

11.1. Information on toxicological effects

Product Information No acute toxicity information is available for this product

(a) acute toxicity;

Oral No data available
Dermal No data available
Inhalation No data available

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|----------------|------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Water | - | | |
| Ethyl alcohol | LD50 = 7060 mg/kg (Rat) | | 20000 ppm/10H (Rat) |
| Methyl alcohol | Calc. ATE 60 mg/kg (Human evidence) LD50 = 6200 mg/kg (Rat) | Calc. ATE 60 mg/kg (Human evidence) LD50 = 6200 mg/kg (Rat) | Calc. ATE 0.6 mg/L (vapours) or 0.5 mg/L (mists) (Human evidence) LC50 = 64000 ppm (Rat) 4 h 83.2 mg/L (Rat) 4 h |

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component | EU | UK | Germany | IARC |
|---------------|----|----|---------|---------|
| Ethyl alcohol | | | | Group 1 |

(g) reproductive toxicity;
Reproductive Effects
Developmental Effects
Teratogenicity

No data available
Adverse reproductive effects have occurred in humans.
Substances known to cause developmental toxicity in humans.
Teratogenic effects have occurred in humans.

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs

Liver, Kidney, Central nervous system (CNS), Reproductive System, Blood, Gastrointestinal tract (GI), Eyes, Respiratory system, Skin.

(j) aspiration hazard; No data available

Other Adverse Effects

Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information

Symptoms / effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects

Do not empty into drains.

100000000100505

SAFETY DATA SHEET

Protocol Safranin Stain

Revision Date 30-Jul-2013

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|----------------|------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Ethyl alcohol | Fathead minnow (Pimephales promelas) LC50 = 14200 mg/l/96h | EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h | EC50 (72h) = 275 mg/l (Chlorella vulgaris) | Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min |
| Methyl alcohol | Pimephales promelas: LC50 > 10000 mg/L 96h | EC50 > 10000 mg/L 24h | | EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min |

12.2. Persistence and degradability No information available

12.3. Bioaccumulative potential No information available

| Component | log Pow | Bioconcentration factor (BCF) |
|----------------|---------|-------------------------------|
| Ethyl alcohol | -0.32 | No data available |
| Methyl alcohol | -0.74 | 10 (fish) |

12.4. Mobility in soil .

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Other adverse effects

Endocrine Disruptor Information
Persistent Organic Pollutant
Ozone Depletion Potential

This product does not contain any known or suspected endocrine disruptors
This product does not contain any known or suspected substance
This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Contaminated Packaging

Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

European Waste Catalogue (EWC)

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number

UN1170

14.2. UN proper shipping name

ETHANOL SOLUTION

14.3. Transport hazard class(es)

3

14.4. Packing group

III

ADR

14.1. UN number

UN1170

14.2. UN proper shipping name

ETHANOL SOLUTION

14.3. Transport hazard class(es)

3

14.4. Packing group

III

100000000100505

SAFETY DATA SHEET

Protocol Safranin Stain

Revision Date 30-Jul-2013

IATA

14.1. UN number UN1170
14.2. UN proper shipping name ETHANOL SOLUTION
14.3. Transport hazard class(es) 3
14.4. Packing group III
14.5. Environmental hazards No hazards identified
14.6. Special precautions for user No special precautions required
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

Australia Complete Regulatory Information contained in following SDS's X = listed China
Canada The product is classified and labeled according to EC directives or corresponding national laws The product is classified and labeled in accordance with Directive 1999/45/EC
Europe TSCA Korea Philippines

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | IECSC | AICS | KECL |
|-----------------------|-----------|--------|-----|------|-----|------|-------|------|-------|------|------|
| Water | 231-791-2 | - | | X | X | - | X | - | X | X | X |
| Ethyl alcohol | 200-578-6 | - | | X | X | - | X | X | X | X | X |
| Methyl alcohol | 200-659-6 | - | | X | X | - | X | X | X | X | X |
| Safranin O, certified | 207-518-8 | - | | X | X | - | X | X | X | X | X |

| Component | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|----------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Methyl alcohol | 500 tonne | 5000 tonne |

National Regulations

| Component | Germany - Water Classification (VwVwS) | Germany - TA-Luft Class |
|----------------|----------------------------------------|-------------------------|
| Ethyl alcohol | WGK 1 | |
| Methyl alcohol | WGK 1 WGK 2 | |

| Component | France - INRS (Tables of occupational diseases) |
|----------------|------------------------------------------------------|
| Ethyl alcohol | Tableaux des maladies professionnelles (TMP) - RG 84 |
| Methyl alcohol | Tableaux des maladies professionnelles (TMP) - RG 84 |

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full Text of H-/EUH-Statements Referred to Under Section 3

H225 - Highly flammable liquid and vapor

H370 - Causes damage to organs

Legend

SAFETY DATA SHEET

Protocol Safranin Stain

Revision Date 30-Jul-2013

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - Volatile Organic Compounds

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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End of Safety Data Sheet