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SAFETY DATA SHEET

Revision Date 29-Jul-2015

Version 1

1. IDENTIFICATION

Product Name Hematoxylin Stain Solution, 3% in Alcohol
Product Code 4787
Recommended Use For laboratory, scientific, R&D or manufacturing use.
Company E K Industries, Inc.
1403 Herkimer St.
Joliet, IL 60432
Tel. (800) 283-4244
Emergency Telephone Call CHEMTREC 1-800-424-9300 (EKI CCN 7453)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|------------|
| Acute toxicity - Oral | Category 4 |
| Specific target organ toxicity (single exposure) | Category 1 |
| Flammable liquids | Category 2 |

Label elements

Signal word

Danger

Hazard statements

Harmful if swallowed. Causes damage to organs.
Highly flammable liquid and vapor.



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. 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. Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements - Response

IF exposed: Call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
 In case of fire: Use CO₂, dry chemical, or foam for extinction.

Precautionary Statements - Storage

Store locked up. Store in a well-ventilated place. Keep cool.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | Weight-% |
|-------------------|----------|----------|
| Ethyl alcohol | 64-17-5 | 86-90 |
| Isopropyl alcohol | 67-63-0 | <5 |
| Methyl alcohol | 67-56-1 | <5 |
| Hematoxylin | 517-28-2 | 2-4 |

4. FIRST AID MEASURES

Description of first aid measures

| | |
|-----------------------|---|
| General advice | In case of accident or exposure, seek medical attention immediately. Show this Safety Data Sheet if possible. |
| Eye contact | Immediately flush with plenty of water for at least 15 minutes, separating eyelids occasionally. Remove contact lenses if present. Get immediate medical attention. |
| Skin contact | Wash thoroughly with soap and water while removing contaminated garments. Get medical attention if irritation develops. Wash contaminated clothing before reuse. |
| Inhalation | Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. |
| Ingestion | Do NOT induce vomiting unless instructed to do so by medical personnel. If conscious, rinse mouth and give several glasses of water to drink. Never give anything by mouth to an unconscious person. Get immediate medical attention. |

Most important symptoms and effects, both acute and delayed

| | |
|-----------------|---|
| Symptoms | If swallowed or inhaled, causes irritation. Intoxicant. May cause headache, drowsiness, nausea, vomiting, blurred vision, blindness, coma, and death. |
|-----------------|---|

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

In case of fire, use water fog, dry chemical, CO₂ or "alcohol resistant" foam

Specific hazards arising from the chemical

Vapors can flow along surfaces to distant ignition sources and flash back.

Protective equipment and precautions for firefighters

Firefighters should wear self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

NFPA

Health hazards 2

Flammability 3

Instability 0

Physical and Chemical
Properties -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

| | |
|----------------------------------|---|
| Personal precautions | Remove all sources of ignition. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas. Avoid contact with skin, eyes and inhalation of vapors. |
| Environmental precautions | Do not allow into any sewer, on the ground or into any body of water. Avoid release to the environment. |

Methods and material for containment and cleaning up

| | |
|--------------------------------|--|
| Methods for containment | Prevent further leakage or spillage if safe to do so. |
| Methods for cleaning up | Absorb spill with inert material, scoop up and containerize for disposal. Take precautionary measures against static discharges. |

7. HANDLING AND STORAGE

| | |
|--------------------------------------|--|
| Precautions for safe handling | Use personal protective equipment as required |
| Storage Conditions | Keep container tightly closed in a dry and well-ventilated place. Store in an approved Flammable Liquids storage area. Store at 15C to 25C. Keep away from heat. |
| Incompatible materials | Strong oxidizing agents. Alkaline substances. Ammonia. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|------------------------------|---------------------------------------|--|---|
| Ethyl alcohol 64-17-5 | STEL: 1000 ppm | TWA: 1000 ppm TWA: 1900 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³ | IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³ |
| Isopropyl alcohol 67-63-0 | STEL: 400 ppm TWA: 200 ppm | TWA: 400 ppm TWA: 980 mg/m ³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m ³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m ³ | IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³ |
| Methyl alcohol 67-56-1 | STEL: 250 ppm TWA: 200 ppm Skin | TWA: 200 ppm TWA: 260 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m ³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m ³ (vacated) Skin | IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³ |

Appropriate engineering controls

| | |
|-----------------------------|---|
| Engineering Controls | Emergency showers, eyewash stations, ventilation systems. |
|-----------------------------|---|

Individual protection measures, such as personal protective equipment

| | |
|---------------------------------|--|
| Eye/face protection | Tight sealing safety goggles. |
| Skin and body protection | Wear fire/flammable resistant/retardant clothing. Wear protective gloves and protective clothing. |
| Respiratory protection | If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be |

provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | |
|---------------------------------------|--------------------------|
| Physical state | Liquid |
| Appearance | Clear, brown |
| Odor | Odor of grain alcohol |
| Odor threshold | No information available |
| pH | No information available |
| Melting point / freezing point | -114 C |
| Boiling point / boiling range | ~78 C |
| Flash point | 13 C |
| Evaporation rate | 3.3 (BuAc=1) |
| Flammability (solid, gas) | No information available |
| Flammability Limit in Air | |
| Upper flammability limit: | 19% |
| Lower flammability limit: | 3.3% |
| Vapor pressure | 44 |
| Vapor density | 1.6 |
| Relative density | 0.79 |
| Water solubility | Miscible with water |
| Solubility in other solvents | No information available |
| Partition coefficient | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available |
| Kinematic viscosity | No information available |

10. STABILITY AND REACTIVITY

| | |
|---|--|
| Stability | Stable under normal conditions. |
| Possibility of Hazardous Reactions | None under normal processing. |
| Conditions to avoid | Sources of ignition. |
| Incompatible materials | Strong oxidizing agents. Alkaline substances. Ammonia. |
| Hazardous Decomposition Products | None known based on information supplied. |

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

| | |
|---------------------|---------------------------------------|
| Inhalation | No data available. |
| Eye contact | Avoid contact with eyes. |
| Skin contact | Avoid contact with skin and clothing. |
| Ingestion | Harmful if swallowed. |

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------------|-----------|-------------|--------------------------|
| Ethyl alcohol 64-17-5 | - | - | = 124.7 mg/L (Rat) 4 h |

| | | | |
|------------------------------|----------------------|--------------------------|-------------------------|
| Isopropyl alcohol 67-63-0 | = 4396 mg/kg (Rat) | = 12800 mg/kg (Rabbit) | = 16000 ppm (Rat) 8 h |
| Methyl alcohol 67-56-1 | = 5628 mg/kg (Rat) | - | = 83.2 mg/L (Rat) 4 h |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|---|
| Skin corrosion/irritation | May cause irritation and dryness. Repeated exposure may cause dermatitis. Harmful if absorbed through skin. |
| Serious eye damage/eye irritation | Irritating to eyes. |
| Sensitization | No information available. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen |

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|------------------------------|-------|---------|-----|------|
| Isopropyl alcohol 67-63-0 | - | Group 3 | - | - |

IARC (International Agency for Research on Cancer)

Group 3 - Not classifiable as to carcinogenicity in humans

STOT - single exposure Eyes, Skin, Respiratory system, Central nervous system, Liver, Reproductive System,

12. ECOLOGICAL INFORMATION

Ecotoxicity

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|------------------------------|---|--|---|
| Ethyl alcohol 64-17-5 | - | 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through | 9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static |
| Isopropyl alcohol 67-63-0 | 1000: 96 h Desmodemus subspicatus mg/L EC50 1000: 72 h Desmodemus subspicatus mg/L EC50 | 9640: 96 h Pimephales promelas mg/L LC50 flow-through 11130: 96 h Pimephales promelas mg/L LC50 static 140000: 96 h Lepomis macrochirus µg/L LC50 | 13299: 48 h Daphnia magna mg/L EC50 |
| Methyl alcohol 67-56-1 | - | 28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through | - |

Persistence and degradability

No information available.

Bioaccumulation

No information available.

| Chemical Name | Partition coefficient |
|------------------------------|-----------------------|
| Ethyl alcohol 64-17-5 | -0.32 |
| Isopropyl alcohol 67-63-0 | 0.05 |
| Methyl alcohol 67-56-1 | -0.77 |

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container. Emptied containers may contain residue. Continue to follow label warnings after container is emptied.

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---------------------------|------|-----------------------------------|------------------------|------------------------|
| Methyl alcohol 67-56-1 | - | Included in waste stream: F039 | - | U154 |

| Chemical Name | California Hazardous Waste Status |
|------------------------------|-----------------------------------|
| Ethyl alcohol 64-17-5 | Toxic Ignitable |
| Isopropyl alcohol 67-63-0 | Toxic Ignitable |
| Methyl alcohol 67-56-1 | Toxic Ignitable |

14. TRANSPORT INFORMATION

Transportation information is provided as a general reference only and may not be applicable in all situations. This information applies to non-bulk shipments only. Per 49 CFR §173.22, it is the shipper's responsibility to ensure that all materials are properly packaged, classified and labeled prior to shipment.

DOT

UN/ID no. 1170
Proper shipping name Ethanol solutions
Hazard Class 3
Packing Group II

IATA

UN/ID no. 1170
Proper shipping name Ethanol solutions
Hazard Class 3
Packing Group II

15. REGULATORY INFORMATION

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | SARA 313 - Threshold Values % |
|-----------------------------|-------------------------------|
| Isopropyl alcohol - 67-63-0 | 1.0 |
| Methyl alcohol - 67-56-1 | 1.0 |

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard Yes
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---------------------------|--------------------------|----------------|--|
| Methyl alcohol 67-56-1 | 5000 lb | - | RQ 5000 lb final RQ RQ 2270 kg final RQ |

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals

| Chemical Name | California Proposition 65 |
|--------------------------|-----------------------------|
| Ethyl alcohol - 64-17-5 | Carcinogen Developmental |
| Methyl alcohol - 67-56-1 | Developmental |

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|------------------------------|------------|---------------|--------------|
| Ethyl alcohol 64-17-5 | X | X | X |
| Isopropyl alcohol 67-63-0 | X | X | X |
| Methyl alcohol 67-56-1 | X | X | X |

16. OTHER INFORMATION

Prepared By
Revision Date
Disclaimer

EKI Regulatory Affairs (Email: reg@eki-chem.com)
29-Jul-2015

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End of Safety Data Sheet