

# Safety Data Sheet

## SUDAN IV STAINING SOLUTION (HERXHEIMER II)

### Section 1 - Chemical Product and Company Identification

**SDS Name:** Sudan IV Staining Solution (Herxheimer II)

**Catalog Numbers:** SO-923, H-500-1

**Company Identification:** Transene Company, Inc., DBA ROWLEY BIOCHEMICAL, Inc.  
10 ELECTRONICS AVENUE  
DANVERS, MA 01923

**For information, call:** 978-739-4883

**Emergency Number:** 800-424-9300

**For CHEMTREC assistance, call:** 800-424-9300

### Section 2 - Hazards Identification

#### GHS Classifications

H225-Flammable liquids: 2

H301-Acute toxicity, oral: 3

H316-Skin corrosion/irritation: 3

H317-Sensitisation, skin: 1

H319-Serious Eye damage/Eye Irritation: 2A

H336-Specific target organ toxicity, single exposure; Narcotic effects

H370-Specific target organ toxicity, single exposure: 1

H372-Specific target organ toxicity, repeated exposure: 1

#### Pictograms or Hazard symbols and Hazard statement.



Signal word: Danger

#### Hazard statements:

H225-Highly flammable liquid and vapour

H301-Toxic if swallowed

H316-Causes mild skin irritation

H317-May cause an allergic skin reaction  
H319-Causes serious eye irritation  
H336-May cause drowsiness or dizziness  
H370-Causes damage to organs (target organs: respiratory system, central nervous system, optic nerve).  
H372-Causes damage to organs through prolonged or repeated exposure (target organs: kidney, liver, blood).

### **Precautionary Statements:**

P210-Keep away from heat/sparks/open flames/hot surfaces.-No smoking.  
P233-Keep container tightly closed.  
P240-Ground/bond container and receiving equipment.  
P241-Use explosion-proof electrical/ventilating/lighting/equipment.  
P242-Use only non-sparking tools.  
P243-Take precautionary measures against static discharge.  
P260-Do not breathe dust/fume/gas/mist/vapours/spray.  
P261-Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264-Wash thoroughly after handling.  
P270-Do not eat, drink or smoke when using this product.  
P271-Use only outdoors or in a well-ventilated area.  
P272-Contaminated work clothing should not be allowed out of the workplace.  
P280-Wear protective gloves/eye protection/face protection.  
P301+P310-If swallowed: Immediately call a Poison Center or doctor/physician.  
P302+P352-If on skin: Wash with plenty of soap and water.  
P303+P361+P353-If on skin (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340-If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338-If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P307+P311-If exposed: Call a Poison Center or doctor/physician.  
P312-Call a Poison Center or doctor/physician if you feel unwell.  
P314-Get medical advice/attention if you feel unwell.  
P330-Rinse mouth.  
P332+P313-If skin irritation occurs: Get medical advice/attention.  
P333+P313-If skin irritation or rash occurs: Get medical advice/attention.  
P337 + P313 If eye irritation persists, get medical advice/attention.  
P363-Wash contaminated clothing before reuse.  
P370+P378-In case of fire: Use dry chemical, carbon dioxide, dry sand, water spray or alcohol-resistant foam to extinguish.  
P403+P235-Store in a well-ventilated place. Keep cool.  
P403+P233-Store in a well-ventilated place. Keep container tightly closed.  
P405-Store locked up.  
P501-Dispose of contents/container in accordance with local/regional/national/international regulations.

### Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
85-83-6	Sudan IV (C.I. 26105)	0.10 w/v
67-64-1	Acetone	50 v/v
64-17-5	Ethyl alcohol	33 v/v
67-56-1	Methyl alcohol	<2 v/v
7732-18-5	Water	balance

### Section 4 - First Aid Measures

**Eye Exposure:** In case of contact with eyes, immediately flush eyes well for at least 15 minutes, lifting the lower and upper eyelids occasionally. Seek medical attention.

**Dermal Exposure:** May cause irritation with redness and pain. May cause an allergic skin reaction. May be absorbed through the skin with possible systemic effects. Flush skin with water for at least 15 minutes. If skin irritation persists, seek medical attention. Remove contaminated clothing and shoes.

**Oral Exposure:** Give large amounts of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Inhalation Exposure:** If inhaled, remove to fresh air. If not breathing give artificial respiration. Seek immediate medical attention. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

### Section 5 - Fire Fighting Measures

**General Information:** Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, dry sand, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

**Flash Point:** no information available

**Autoignition Temperature:** no information available

**Explosion Limits, Lower:** no information available

**Upper:** no information available

**NFPA Rating:** (estimated) Health: 2; Flammability: 4; Instability: 0

NOTE: Static discharge could act as an ignition source.

## Section 6 - Accidental Release Measures

### Procedure(s) of Personal Precaution(s):

Wear personal protective equipment. Eliminate all sources of ignition. Ensure adequate ventilation. Do not inhale or ingest. Avoid contact with skin, eyes, clothing.

**Methods for Cleaning up:** Absorb with sand, earth or vermiculite. Carefully sweep up and containerize for proper disposal. Do not release to the environment. Do not release to drains.

## Section 7 - Handling and Storage

Flammable liquid. Use care when handling. Do not inhale or ingest. Avoid contact with skin, eyes, clothing. Wash thoroughly after handling. Store capped at room temperature. Keep away from incompatible materials. Protect from heat. Vapors heavier than air, may travel considerable distance and ignite or explode.

NOTE: Static discharge could act as an ignition source.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethyl alcohol	1000 ppm STEL	1000 ppm TWA; 1900 mg/m <sup>3</sup> TWA 3300 ppm IDLH	1000 ppm TWA; 1900 mg/m <sup>3</sup> TWA
Methyl alcohol	250 ppm STEL 200 ppm TWA	20 ppm TWA 260 mg/m <sup>3</sup> TWA 6000 ppm IDLH 250 ppm STEL 325 mg/m <sup>3</sup> STEL	200 ppm TWA 260 mg/m <sup>3</sup> TWA
Acetone	500 ppm STEL 250 ppm TWA	250 ppm TWA; 590 mg/m <sup>3</sup> TWA 2500 ppm IDLH	1000 ppm TWA; 2400 mg/m <sup>3</sup> TWA
Sudan IV	-	-	-

### OSHA Vacated PELs:

Ethyl Alcohol: 1000 ppm TWA; 1900 mg/m<sup>3</sup> TWA

Methyl alcohol: 200 ppm TWA; 260 mg/m<sup>3</sup> TWA; 250 ppm STEL; 325 mg/m<sup>3</sup> STEL

Acetone: 750 ppm TWA; 1800 mg/m<sup>3</sup> TWA; 2400 mg/m<sup>3</sup> STEL; 1000ppm STEL

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Section 9 - Physical and Chemical Properties
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**Physical State:** Liquid

**Appearance:** Dark

**Odor:** Alcohol-like

**Vapor Pressure:** No information available

**Odor threshold:** No information available

**Vapor Density:** No information available

**pH:** No information available

**Relative density:** No information available

**Melting point/freezing point:** No information available

**Solubility:** No information available

**Boiling Point:** No information available

**Flash point:** No information available

**Evaporation Rate:** No information available

**Flammability (solid, gas):** No information available

**Partition coefficient: n-octanol/water:** No information available

**Auto-ignition temperature:** No information available

**Decomposition temperature:** No information available

**Viscosity:** No information available

**Specific Gravity/Density:** No information available

NOTE: Static discharge could act as an ignition source.

Section 10 - Stability and Reactivity
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**Chemical Stability:** Stable under normal temperatures and pressures. Reacts violently with oxidizers: Risk of fire/explosion.

**Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Open flame. Incompatible materials, ignition sources, excess heat, oxidizers.

**Incompatibilities with Other Materials:** Oxidizing agents, reducing agents, bases, ammonia, powdered metals, acids, alkali metals, ammonia, peroxides, halogenated compounds, amines, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium-tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide.

**Hazardous Decomposition Products:** Carbon oxides, nitrogen oxides, irritating and toxic fumes and gases, formaldehyde, methanol.

**Hazardous Polymerization:** Will not occur.

Section 11 - Toxicological Information
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**RTECS#: Ethyl Alcohol CAS# 64-17-5:** KQ6300000

**Ethyl Alcohol CAS# 64-17-5:**

LD50 Oral: 7060 mg/kg (Rat)

LD50 Dermal: not listed

LC50 Inhalation: 20000 ppm (Rat) 10 h

Draize test, rabbit, eye: 500 mg Severe.

Draize test, rabbit, eye: 500 mg/24H Mild.

Draize test, rabbit, skin: 20 mg/24H Moderate.

**Carcinogenicity:** Ethyl Alcohol CAS# 64-17-5 is listed by the IARC (Group 1, Carcinogenic to Humans), the NTP, and the ACGIH (A3, Animal Carcinogen). Ethyl Alcohol is listed by California Prop. 65 as a developmental carcinogen (alcoholic beverages).

**RTECS#: Methyl Alcohol CAS# 67-56-1:** PC1400000

**Methyl Alcohol CAS# 67-56-1:**

LD50 Oral: 6200 mg/kg (Rat)

LD50 Dermal: 15800 mg/kg (Rabbit)

LC50 Inhalation: 64000 ppm (Rat) 4 h

**Carcinogenicity:** Methyl Alcohol CAS# 67-56-1 is not listed by the IARC, the NTP, or the ACGIH. Methyl Alcohol is listed by California Prop. 65 (developmental).

**Epidemiology:** Ethanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Prenatal exposure to ethanol is associated with a distinct pattern of congenital malformations that have collectively been termed the "fetal alcohol syndrome".

**Teratogenicity:** Oral, Human - woman: TDLo = 41 gm/kg (female 41 week(s) after conception) Effects on Newborn - Apgar score (human only) and Effects on Newborn - other neonatal measures or effects and Effects on Newborn - drug dependence.

**Reproductive Effects:** Intrauterine, Human - woman: TDLo = 200 mg/kg (female 5 day(s) pre-mating) Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated).

**Neurotoxicity:** No information available.

**Mutagenicity:** DNA Inhibition: Human, Lymphocyte = 220 mmol/L.; Cytogenetic Analysis: Human, Lymphocyte = 1160 gm/L.; Cytogenetic Analysis: Human, Fibroblast = 12000 ppm.; Cytogenetic Analysis: Human, Leukocyte = 1 pph/72H (Continuous).; Sister Chromatid Exchange: Human, Lymphocyte = 500 ppm/72H (Continuous).

**Other Studies:** Standard Draize Test(Skin, rabbit) = 20 mg/24H (Moderate) Standard Draize Test: Administration into the eye (rabbit) = 500 mg (Severe).

**Acetone CAS# 67-64-1: RTECS:** AL3150000

**Oral, Rat LD50:** 5,800 mg/kg

**Dermal, Rabbit LD50:** >15800 mg/kg

**Dermal, Rat LD50:** >7400 mg/kg

**Inhalation, Rat LC50:** 76 mg/L 4h

Investigated as a tumorigen, mutagen, reproductive effector.

**Carcinogenicity:** Acetone CAS# 67-64-1 is not listed by IARC, NTP, ACGIH, or California Prop. 65.

**Special Remarks on other Toxic Effects on Humans:** Material is irritating to mucous membranes, upper respiratory tract, eyes, and skin.

**Mutagenic Effects:** No information available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenicity:** No information available

**Specific Target Organ Toxicity – single exposure:** Central nervous system

**Specific Target Organ Toxicity – repeated exposure:** Kidney, Liver, Spleen, Blood.

**RTECS#:** Sudan IV (Color Index 26105) CAS# 85-83-6: QL5775000

**Sudan IV CAS# 85-83-6:**

LD50 Oral: No information available

LD50 Dermal: No information available

LC50 Inhalation: No information available

**Carcinogenicity:** Sudan IV CAS# 85-83-6 is not listed by IARC, NTP, ACGIH, or California Prop. 65.

**The toxicological properties of this material have not been fully investigated.**

Section 12 - Ecological Information
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**Ecology:** Do not release to the environment. Do not release to drains.

**Ecotoxicity: Ethyl Alcohol CAS# 64-17-5:**

EC50 Freshwater Algae = 275 mg/l (Chlorella vulgaris) 72 h

LC50 Freshwater Fish = 14200 mg/l (fathead minnow, Pimephales promelas) 96 h

EC50 Water Flea = 9268 mg/L 48 h, 10800 mg/L 24 h

**Ecotoxicity: Methyl Alcohol CAS# 67-56-1**

EC50 Freshwater Algae = not listed

LC50 Freshwater Fish = >10000 mg/l (fathead minnow, Pimephales promelas) 96 h

EC50 Water Flea = >10000mg/L 24 h

**Ecotoxicity: Acetone CAS# 57-24-1**

LC50 Freshwater fish = 5540 mg/l (Oncorhynchus mykiss) 96h  
LC50 Freshwater fish = 11000 mg/l (Alburnus alburnus) 96h  
LC50 Freshwater fish = 11300 mg/l (Leuciscus idus) 48h  
LC50 Freshwater fish = 6100 mg/l (Salmo gairdneri) 24h  
EC50 Water Flea = 8800 mg/l 48h  
EC50 Water Flea = 12700 mg/l 48h  
EC50 Water Flea = 12600 mg/l 48h

**Ecotoxicity: Sudan IV CAS# 85-83-6**

No information available

**Mobility in Soil:** Will likely be mobile in the environment due to its volatility.

Section 13 - Disposal Considerations
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**DISPOSAL: Dispose of in accordance with all federal, state, and local regulations.**

Section 14 – Transport Information
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**DOT**

Proper shipping name: Flammable Liquids, N.O.S. (Acetone & SD Alcohol)  
UN1993  
PG II  
Hazard class 3 (flammable)

Section 15 - Regulatory Information
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Canada Regulatory Information

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

Section 16 - Additional Information
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**SDS Creation Date:** 6-7-21

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or*



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