

Safety Data Sheet

MODIFIED ORANGE G STAINING SOLUTION

Section 1 - Chemical Product and Company Identification

SDS Name: Modified Orange G Staining Solution

Catalog Numbers: SO-1228, M-801-4

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

H302-Acute toxicity, oral: 4

H319-Serious eye damage/eye Irritation: 2A

H370-Specific target organ toxicity, single exposure: 1

H372-Specific target organ toxicity, repeated exposure: 1

Pictograms or Hazard symbols and Hazard statement(s):



Signal word: Danger

Hazard statements:

H225-Highly flammable liquid and vapour

H302-Harmful if swallowed

H319-Causes serious eye irritation

H370-Causes damage to organs (target organs: respiratory system, central nervous system, and optic nerve).

H372-Causes damage to organs through prolonged or repeated exposure (target organs: kidney, liver, and blood).

Precautionary Statements:

P210-Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

P233-Keep container tightly closed.

P240-Ground and bond container and receiving equipment.

P241-Use explosion-proof electrical/ventilating/lighting/equipment.

P242-Use non-sparking tools.

P243-Take action to prevent static discharges.

P260-Do not breathe dust/fume/gas/mist/vapours/spray.

P264-Wash thoroughly after handling.

P270-Do not eat, drink, or smoke when using this product.

P280-Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312-If swallowed: Call a Poison Center or doctor/physician if you feel unwell.

P303+P361+P353-If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

P314-Get medical advice/attention if you feel unwell.

P330-Rinse mouth.

P337+P313-If eye irritation persists: Get medical advice/attention.

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.

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
1936-15-8	Orange G	0.2 w/v
12501-23-4	Phosphotungstic Acid Hydrate	<0.02 w/v
64-17-5	Ethyl alcohol	95 v/v
67-56-1	Methyl alcohol	5 v/v

Section 4 - First Aid Measures

Eye Exposure: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Dermal Exposure: In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical attention.

Oral Exposure: If swallowed, seek immediate medical advice. Rinse mouth. Do NOT induce vomiting.

Inhalation Exposure: If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

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.

Hazardous Combustion Products: Carbon oxides, nitrogen oxides, sulfur oxides, sodium oxides, phosphorus oxides, irritating and toxic fumes and gases.

Flash Point: Not available

Autoignition Temperature: Not available

Explosion Limits, Lower: Not available

Upper: Not 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. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation. Keep away from heat. Eliminate all sources of ignition.

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

Use care when handling. Wear personal protective equipment. Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Store in a cool, dry, and well-ventilated area. Keep in a tightly closed and non-metal container. 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.

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.

Exposure Limits:

Chemical Name	ACGIH TLV	NIOSH IDLH	OSHA - Final PELs
Orange G CAS#1936-15-8	Not listed	Not listed	Not listed
Phosphotungstic Acid Hydrate CAS#12501-23-4	3 mg/m ³ TWA	5 mg/m ³ TWA 10 mg/m ³ STEL	5 mg/m ³ TWA (vacated) 10 mg/m ³ STEL (vacated)
Ethanol CAS#64-17-5	1000 ppm STEL	1000 ppm TWA 1900 mg/m ³ TWA 3300 ppm IDLH	1000 ppm TWA 1900 mg/m ³ TWA
Methanol CAS#67-56-1	200 ppm TWA 250 ppm STEL	200 ppm TWA 260 mg/m ³ TWA 250 ppm STEL 325 mg/m ³ STEL 6000 ppm IDLH	200 ppm TWA 260 mg/m ³ TWA 250 ppm STEL 325 mg/m ³ STEL

OSHA Vacated PELs: Phosphotungstic Acid Hydrate: 5 mg/m³ TWA; 10 mg/m³ STEL
Ethanol: 1000 ppm TWA; 1900 mg/m³ TWA
Methanol: 200 ppm TWA; 260 mg/m³ TWA; 250 ppm STEL; 325 mg/m³ STEL

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: Orange

Odor: Alcohol-like

Vapor Pressure: Not available
Odor Threshold: Not available
Vapor Density: Not available
pH: Not available
Relative Density: Not available
Melting point/freezing point: Not available
Solubility: Soluble in water
Boiling Point: Not available
Flash Point: Not available
Evaporation Rate: Not available
Flammability (solid, gas): Not available
Partition coefficient: n-octanol/water: Not available
Auto-ignition Temperature: Not available
Decomposition Temperature: Not available
Viscosity: Not available
Specific Gravity/Density: Not available

NOTE: Static discharge could act as an ignition source.

Section 10 - Stability and Reactivity

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, freezing, and oxidizers.

Incompatibilities with Other Materials: Strong oxidizing agents, strong bases, acids, alkali metals, ammonia, 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, and potassium dioxide.

Hazardous Decomposition Products: Carbon oxides, nitrogen oxides, sulfur oxides, sodium oxides, phosphorus oxides, irritating and toxic fumes and gases.

Section 11 - Toxicological Information
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CAS#12501-23-4 Phosphotungstic Acid Hydrate:

LD50 Oral: Not available

LD50 Dermal: Not available

LC50 Inhalation: Not available

Carcinogenicity: Phosphotungstic Acid Hydrate CAS#12501-23-4 is not listed by IARC, NTP, ACGIH, OSHA, or California Prop 65.

CAS#1936-15-8 Orange G: RTECS#: QJ6500000

LD50 Oral: Not available

LD50 Dermal: Not available

LC50 Inhalation: Not available

Carcinogenicity: Orange G CAS#1936-15-8 is not listed by NTP, ACGIH, OSHA, or California Prop 65. Orange G is listed by IARC (Group 3 unclassifiable as to its carcinogenicity in humans).

Note: Mutagenic effects have occurred in experimental animals. Cytogenetic analysis, hamster ovary.

Reproductive effects: Pig oral – testes, epididymis, sperm duct.

CAS#64-17-5 Ethyl Alcohol: RTECS#: KQ6300000

LD50 Oral: 10470 mg/kg (rat)

LD50 Dermal: Not available

LC50 Inhalation: 124.7 mg/L (rat) 4h

Draize test, rabbit, eye: 500 mg/24h Mild Irritant

Skin: Repeated exposure may cause skin dryness or cracking.

Ethyl Alcohol overexposure may lead to headache, dizziness, tiredness, nausea and vomiting.

Carcinogenicity: Ethyl Alcohol CAS#64-17-5 is not listed by OSHA. Ethyl Alcohol is listed by IARC (Group 1, Carcinogenic to Humans), NTP (Known Carcinogen), and ACGIH (A3, Animal Carcinogen). Ethyl Alcohol is listed by California Prop. 65 as a Developmental Carcinogen (alcoholic beverages only).

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

LD50 Oral: 100.1 mg/kg

LD50 Dermal: 300.1 mg/kg

LC50 Inhalation: 3.1 mg/L 4h (rat)

May cause skin and eye irritation.

Methyl Alcohol may cause blindness: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Carcinogenicity: Methyl Alcohol CAS#67-56-1 is not listed by IARC, NTP, ACGIH, or OSHA. Methyl Alcohol is listed by California Prop. 65 as a developmental carcinogen.

Information on the likely routes of exposure: Routes of entry anticipated: oral, dermal, inhalation, eye.

Mutagenic Effects: Not available

Reproductive Effects: Not available

Developmental Effects: Not available

Teratogenicity: Not available

Specific Organ Toxicity, Single Exposure: Respiratory system, central nervous system, and optic nerve.

Specific Organ Toxicity, Repeated Exposure: Kidney, liver, spleen and blood.

Symptoms associated with exposure: Prolonged or repeated exposure can defat the skin and lead to irritation, cracking, and/or dermatitis. Eye contact may result in corneal damage, blindness, pain, irritation, watering, redness, blurred or double vision. Causes damage to organs if in contact with skin, if inhaled or if swallowed. May cause cough, shortness of breath, headache, nausea, vomiting.

The toxicological properties of this material have not been thoroughly investigated.

Section 12 - Ecological Information

Ecotoxicity: Do not release to the environment. Do not release to drains. Toxic to aquatic life. May cause long-term adverse effects to the environment.

CAS#64-17-5 Ethyl Alcohol:

EC50, freshwater algae: 275 mg/L (chlorella vulgaris) 72h

LC50, freshwater fish: 14200 mg/L (pimephales promelas)(fathead minnow) 96h

EC50, water flea: 9268 mg/L 48h, 10800 mg/L 24h

EC50, water flea: 10800 mg/L 24h

EC50, microtox: 34634 mg/L 30min (photobacterium phosphoreum)

EC50, microtox: 35470 mg/L 5min (photobacterium phosphoreum)

CAS#67-56-1 Methyl Alcohol:

LC50, freshwater fish: >10000 mg/L (pimephales promelas)(fathead minnow) 96h

EC50, water flea: >10000mg/L 24 h

EC50, algae: 22000 mg/L 96h static (pseudokirchneriella subcapitata)(green algae)

IC50, bacteria: >1000 mg/L 3h static (activated sludge)

EC50, microtox: 39000 mg/L 25min

EC50, microtox: 40000 mg/L 15min

EC50, microtox: 43000 mg/L 5min

Persistence and degradability: Persistence is unlikely based on available information.

Bio-accumulative potential: Not available.

Mobility: Will likely be mobile in the environment due to its water solubility and volatility.

Section 13 - Disposal Considerations

DISPOSAL: Dispose of in accordance with all federal, state, and local regulations.

Section 14 – Transport Information

DOT

Proper shipping name: Alcohols, N.O.S.

UN1987

PG II

Hazard class 3 (flammable)

Section 15 - Regulatory Information

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

SDS Creation Date: 6-8-22

Revision #1: 10-14-22

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