

MATERIAL SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

SRM Number: 2037
MSDS Number: 2037
SRM Name: Solvent Red 24 Diesel Fuel Dye

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Telephone: 301-975-2200
FAX: 301-926-4751
E-mail: SRMMSDS@nist.gov

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

Description: This Standard Reference Material (SRM) is intended for the verification and calibration of spectrophotometers used to measure the concentration of Solvent Red dyes employed as colorants to mark "off-road" diesel fuel. A unit of SRM 2037 consists of an amber 30 mL (1 oz), screw-capped bottle containing approximately 100 mg of solid Solvent Red 24 Diesel Fuel Dye.

Substance: Solvent Red 24 Diesel Fuel Dye

Other Designations: Solvent red 24; sudan red IV; 2-naphthalenol; scarlet red; oil red; tricosol red 24p; solvent red 24; 2-naphthol; 1-(2-methyl-4-(2-methylphenylazo)phenylazo)-2-naphthol; C₂₄H₂₀N₄O

2. HAZARDS IDENTIFICATION

NFPA Ratings (Scale 0–4): Health = 1 Fire = 1 Reactivity = 0

Major Health Hazards: There are no known major health hazards associated with this material.

Physical Hazards: Dust/air mixture may ignite or explode.

Potential Health Effects (Acute and Chronic)

Inhalation: Exposure may cause irritation of the respiratory tract.

Skin Contact: Exposure may cause irritation vomiting, diarrhea, and stomach pain. Repeated or prolonged exposure may cause sensitization dermatitis.

Eye Contact: No information available on significant adverse effects.

Ingestion: Exposure may result in nausea, vomiting, diarrhea, and stomach pain.

Listed as a Carcinogen/Potential Carcinogen

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens	_____	X
In the International Agency for Research on Cancer (IARC) Monographs	_____	X ^(a)
By the Occupational Safety and Health Administration (OSHA)	_____	X

^(a) IARC – Group 3 (not classifiable).

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Component	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Solvent Red 24	85-83-6	201-635-8	98

EC Classification: No EC classification assigned to this material.

EC Risk (R No) and EC Safety (S No) Phrases: Not assigned.

4. FIRST AID MEASURES

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration by qualified personnel. Seek immediate medical attention.

Skin Contact: Rinse affected area with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Seek medical assistance if necessary. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Seek immediate medical attention.

Ingestion: If a large amount is swallowed, get medical attention.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Slight fire hazard. Dust/air mixtures may ignite or explode.

Extinguishing Media: Regular dry chemical, carbon dioxide, water, regular foam.

Fire Fighting: Avoid inhalation of combustion by-products.

Flash Point: Not applicable.

Autoignition Temp: Not applicable.

Flammability Limits in Air

UPPER (Volume %): Not applicable.

LOWER (Volume %): Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Occupational Release: Collect spilled material in appropriate container for proper disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

Disposal: Refer to Section 13, "Disposal Considerations".

7. HANDLING AND STORAGE

Storage: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Safe Handling Precautions: See Section 8, "Exposure Controls and Personal Protection".

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: No occupation exposure limits established.

Ventilation: Local exhaust ventilation system.

Respirator: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29 CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye Protection: Wear safety goggles. An eyewash station and drench shower should be readily available near the handling and use areas.

Personal Protection: Chemically resistant gloves and clothing are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Brown solid; odorless.

Molar Mass (g/mol): 380.5

Molecular Formula: $C_{24}H_{20}N_4O$

Melting Point (°C): 181–188 (358–370.4 °F)

Decomposition (°C): 260 (500 °F)

Water Solubility: Insoluble.

10. STABILITY AND REACTIVITY

Stability: Stable Unstable

Stable at normal temperature and pressure.

Conditions to Avoid: Avoid heat, flames, sparks, and other ignition sources.

Incompatible Materials: Oxidizing materials.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Oxides of carbon, nitrogen.

Hazardous Polymerization: Will Occur Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Entry: Inhalation Skin Ingestion

Toxicity Data: No toxicity data available.

Health Effects: See Section 2, "Hazards Identification" for potential health effects.

Target Organ: No data available.

Mutagen/Tumorigen: The components of this material have been reviewed and the Registry of Toxic Effects of Chemical Substances (RTECS) lists the following endpoints.

 Mutagenic Effects: Hamster, 100 mg/L

 Tumorigenic Effects: Rat, Subcutaneous, TDLo: 512 mg/kg (58 weeks)

Medical Conditions Generally Aggravated by Exposure: No data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No ecotoxicity data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: This material is not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. REGULATIONS

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated for this material.

SARA Title III Section 302 (40 CFR 355.30): Not regulated for this material.

SARA Title III Section 304 (40 CFR 355.40): Not regulated for this material.

SARA Title III Section 313 (40 CFR 372.65): Not regulated for this material.

OSHA Process Safety (29 CFR 1910.119): Not regulated for this material.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

 ACUTE HEALTH: No

 CHRONIC HEALTH: No

 FIRE: No

 REACTIVE: No

 PRESSURE: No

STATE REGULATIONS

California Proposition 65: Not listed.

CANADIAN REGULATIONS

WHMIS Information: Not provided for this information.

EUROPEAN REGULATIONS

EC Classification: No classification assigned to this material.

EC Risk (R No) and EC Safety (S No) Phrases: Not assigned.

NATIONAL INVENTORY STATUS

U.S. Inventory (TSCA): Solvent Red 24 is listed.

TSCA 12(b), Export Notification: Not listed.

16. OTHER INFORMATION

Sources: ChemAdvisor, Inc., MSDS *Sudan IV*, 31 August 2009.

Disclaimer: Physical and chemical data contained in this MSDS are provided only for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data in the MSDS. The certified values for this material are given in the NIST Certificate of Analysis.