



# SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

## Section 1: Product and Company Identification

Product Name: **Radnor Penetrant Solvent Removable (Aerosol)**  
Product Identifier: Standard/Nuclear Penetrant  
Product Use: NDT Penetrating Dye  
Item Code(s): 64000200  
SDS Code: 016R  
Supplier: Radnor  
Physical Address: 259 North Radnor - Chester Road - Suite 100  
Radnor, PA 19087-5283  
Emergency Phone: 866-734-3438  
Date of Preparation: March 21, 2019  
OSHA Regulatory Status: Regulated  
WHMIS Classification: A, B-5, D-2B

## Section 2: Hazard Identification

### Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Aspiration toxicity	Category 1
Flammable aerosols	Category 1
Gases under pressure	Compressed Gas

## Emergency Overview

### DANGER

#### Hazard Statements

Causes skin irritation.

Causes eye irritation.

Suspected of causing cancer.

May cause respiratory irritation. May cause drowsiness or dizziness.

May be fatal if swallowed and enters airways.

Extremely flammable aerosol.

Contains gas under pressure; may explode if heated.



**Appearance:** Opaque

**Physical State:** Aerosol

**Odor:** Solvent

#### Precautionary Statements - Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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

Wash hands and face thoroughly after handling.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container: Do not pierce or burn, even after use.

#### Precautionary Statements - Response

IF EXPOSED OR CONCERNED: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF EYE IRRITATION PERSISTS: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water.

IF SKIN IRRITATION OCCURS: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Do NOT induce vomiting.

#### Precautionary Statements - Storage

Store locked up.

Protect from sunlight. Store in a well-ventilated place.

Do not expose to temperatures exceeding 122°F (50°C).

Keep container tightly closed.

#### Precautionary Statements - Disposal

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

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC): None

#### OTHER INFORMATION:

- Toxic to aquatic life with long lasting effects.
- 0% of the mixture consists of ingredient(s) of unknown toxicity.

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## Section 3: Composition and Information on Ingredients

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CHEMICAL NAME	CAS #	Weight %
KEROSENE	8008-20-6	80-90
PROPANE/ISOBUTANE/N-BUTANE	68476-86-8	10-20
NAPHTHALENE	91-20-3	0-10

The exact percentage (concentration) has been withheld as a trade secret. See Section 16 for Definitions of Terms Used.

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## Section 4: First Aid Measures

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### First Aid Measures for Different Exposure Routes

GENERAL ADVICE: Avoid contact with eyes, and clothing. Avoid breathing, vapors, mist, or gas.

EYE CONTACT: In the case of contact with eyes, rinse immediately with plenty of water for 15 minutes and seek medical advice.

SKIN CONTACT: Wash skin with soap and water. Get medical attention if irritation persists.

INHALATION: Move to fresh air. If not breathing, give artificial respiration. If breathing has stopped, contact emergency medical services immediately.

INGESTION: Do NOT induce vomiting. Call a physician immediately. Never give anything by mouth to an unconscious person. Risk of product entering the lungs on vomiting after ingestion.

### Most Important Symptoms/Effects, Acute and Delayed

MAIN SYMPTOMS: May cause skin irritation. Inhalation causing Central Nervous System effects. Ingestion causing lung damage.

### Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary

NOTES TO PHYSICIAN: Treat symptomatically.

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## Section 5: Fire Fighting Measures

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SUITABLE EXTINGUISHING MEDIA: Water fog. Dry chemical. Foam. Carbon dioxide (CO<sub>2</sub>). Cool containers / tanks with water spray.

UNSUITABLE EXTINGUISHING MEDIA: Do not use a solid water stream as it may scatter and spread fire.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: Flammable or extremely flammable aerosol. Container may burst in fire.

### Explosion Data

SENSITIVITY TO MECHANICAL IMPACT: None.

SENSITIVITY TO STATIC DISCHARGE: Yes.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use shielding to protect fire-fighters from bursting containers.

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## Section 6: Accidental Release Measures

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### Personal Precautions, Protective Equipment and Emergency Procedures

PERSONAL PRECAUTIONS: Use with adequate ventilation to keep the exposure levels below the OELS.

### Environmental Precautions

ENVIRONMENTAL PRECAUTIONS: Report spills as required by local and federal regulations.

### Methods and Materials for Containment and Cleaning Up

METHODS FOR CONTAINMENT: Prevent further leakage or spillage if safe to do so.

METHODS FOR CLEANING UP: Contain liquid and collect with an inert, non-combustible material.

## Section 7: Handling and Storage

### Precautions for Safe Handling

**ADVICE ON SAFE HANDLING:** Avoid contact with eyes. Avoid breathing vapors or mists. Contents under pressure. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can. Avoid skin contact. Use with adequate ventilation. Keep container away from heat, flames, and all other sources of ignition. Keep can away from all sources of electricity such as electric motors and batteries. Do not spray on hot surfaces.

### Conditions for Safe Storage, Including Any Incompatibilities

**TECHNICAL MEASURES/STORAGE CONDITIONS:** Keep containers tightly closed in a dry, cool and well-ventilated place.

**INCOMPATIBLE PRODUCTS:** Store away from strong oxidizers and acids.

**AEROSOL LEVEL:** 3

## Section 8: Exposure Controls / Personal Protection

### Control parameters

#### EXPOSURE GUIDELINES:

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
KEROSENE 8008-20-6	TWA: 200 mg/m <sup>3</sup> total hydrocarbon vapor application restricted to conditions in which there are negligible aerosol exposures. Skin - potential significant contribution to overall exposure by the cutaneous route.	-	TWA: 100 mg/m <sup>3</sup>
PROPANE/ISOBUTANE/ N-BUTANE 68476-86-8	74-98-6: TWA: 1000 ppm 106-97-8: STEL: 1000 ppm 75-28-5: STEL: 1000 ppm	74-98-6: TWA: 1000 ppm TWA: 1800 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m <sup>3</sup> 106-97-8: (vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	74-98-6: IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m <sup>3</sup> 106-97-8: TWA: 800 ppm TWA: 1900 mg/m <sup>3</sup> 75-28-5: TWA: 800 ppm TWA: 1900 mg/m <sup>3</sup>
NAPHTHALENE 91-20-3	STEL: 15 ppm TWA: 10 ppm Skin - potential significant contribution to overall exposure by the cutaneous route.	TWA: 10 ppm TWA: 50 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m <sup>3</sup> (vacated) STEL: 15 ppm (vacated) STEL: 75 mg/m <sup>3</sup>	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m <sup>3</sup> STEL: 15 ppm STEL: 75 mg/m <sup>3</sup>

**ACGIH:** (American Conference of Governmental Industrial Hygienists)

**OSHA:** (Occupational Safety & Health Administration)

**NIOSH IDLH:** Immediately Dangerous to Life or Health

**OTHER EXPOSURE GUIDELINES:** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

### Exposure Controls

**ENGINEERING MEASURES:** Ventilation systems. Use adequate ventilation to keep the exposure levels below the OELs.

## Individual Protection Measures, Such as Personal Protective Equipment

EYE/FACE PROTECTION: Safety glasses with side-shields.

SKIN AND BODY PROTECTION: Chemical resistant apron. Protective gloves.

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.

HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practice.

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## Section 9: Physical and Chemical Properties

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PHYSICAL STATE: Aerosol  
APPEARANCE: Opaque  
COLOR: Purple  
ODOR: Solvent  
ODOR THRESHOLD: No information Available

<u>Property</u>	<u>Values</u>	<u>Remarks • Methods</u>
<u>pH</u> :	No information available	Not applicable
<u>MELTING/FREEZING POINT</u> :	No information available	
<u>BOILING POINT/BOILING RANGE</u> :	No information available	
<u>FLASH POINT</u> :	-96.4°C / -141°F	Based on propellant
<u>EVAPORATION RATE</u> :	No information available	
<u>FLAMMABILITY (SOLID, GAS)</u> :	No information available	
<u>FLAMMABILITY LIMITS IN AIR</u> :		
<u>UPPER FLAMMABILITY LIMIT</u> :	No information available	
<u>LOWER FLAMMABILITY LIMIT</u> :	No information available	
<u>VAPOR PRESSURE</u> :	No information available	
<u>VAPOR DENSITY</u> :	No information available	
<u>SPECIFIC GRAVITY</u> :	0.770	
<u>WATER SOLUBILITY</u> :	Practically insoluble	
<u>PARTITION COEFFICIENT</u> : n-octanol/water	No information available	
<u>AUTO IGNITION TEMPERATURE</u> :	No information available	Not applicable
<u>DECOMPOSITION TEMPERATURE</u> :	No information available	
<u>VISCOSITY</u> :	No information available	
<u>EXPLOSIVE PROPERTIES</u> :	No information available	

### Other information

VOC CONTENT(%): 99.55  
MIR VALUE: 1.83

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## Section 10: Stability and Reactivity

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REACTIVITY: No data available

CHEMICAL STABILITY: Stable under recommended storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS: None under normal processing

CONDITIONS TO AVOID: Extremes of temperature and direct sunlight.

INCOMPATIBLE MATERIALS: Store away from strong oxidizers and acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides.

## Section 11: Toxicological Information

### Information on Likely Routes of Exposure

**PRODUCT INFORMATION:** Product does not present an acute toxicity hazard based on known information.

**INHALATION:** Exposure to high vapor concentrations may cause nervous systems effects such as headache, nausea, and dizziness.

**EYE CONTACT:** Irritating to eyes.

**SKIN CONTACT:** Irritating to skin. Prolonged skin contact may defat the skin and produce dermatitis.

**INGESTION:** Not acutely toxic. Aspiration into the lungs during swallowing may cause serious lung damage which may be fatal.

### Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
KEROSENE 8008-20-6	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.28 mg/L ( Rat ) 4 h
NAPHTHALENE 91-20-3	-	= 1120 mg/kg (Rabbit)	> 340 mg/m <sup>3</sup> (Rat) 1 h

### Information on Toxicological Effects

**SYMPTOMS:** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. May cause mild irritation. Irritating to skin. Prolonged or repeated exposure may cause dermatitis. Not acutely toxic. Aspiration into the lungs during swallowing may cause serious lung damage which may be fatal.

### Delayed and Immediate Effects as well as Chronic Effects from Short and Long-Term Exposure

**SKIN CORROSION/IRRITATION:** Irritating to skin.

**EYE DAMAGE/IRRITATION:** Irritating to eyes.

**SENSITIZATION:** No information available.

**GERM CELL MUTAGENICITY:** No information available.

**CARCINOGENICITY:** The table below indicates whether each agency has evaluated a listed ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
KEROSENE 8008-20-6	A3	Group 3	-	-
NAPHTHALENE 91-20-3	-	Group 2A Group 2B	Reasonably Anticipated	X

#### **ACGIH: (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

#### **IARC: (International Agency for Research on Cancer)**

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

#### **NTP: (National Toxicity Program)**

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

#### **OSHA: (Occupational Safety & Health Administration)**

X - Present

REPRODUCTIVE TOXICITY: The ingredients are not reproductive hazards.

SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE): May cause respiratory irritation. May cause drowsiness and dizziness.

SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (REPEATED EXPOSURE): No information available.

CHRONIC TOXICITY: Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Chronic hydrocarbon abuse has been associated with irregular heart rhythms and potential cardiac arrest. Prolonged skin contact may defat the skin and produce dermatitis.

TARGET ORGAN EFFECTS: Central nervous system, Eyes, Respiratory system, Skin.

ASPIRATION HAZARD: May be fatal if swallowed and enters airways.

### Numerical Measures of Toxicity - Product Information

UNKNOWN ACUTE TOXICITY: 0% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

**ATEmix (oral)**: 6185 mg/kg

**ATEmix (dermal)**: 2474 mg/kg

## Section 12: Ecological Information

ENVIRONMENTAL EFFECTS: This product has not been tested for environmental effects.

IMPORTANT ENVIRONMENTAL CHARACTERISTICS: N/Av

AQUATIC TOXICITY: Harmful to aquatic life with long lasting effects.

ECOTOXICITY:

Chemical Name	Toxicity to Fish	Toxicity to Daphnia and other Aquatic Invertebrates
PROPANE/ISOBUTANE/ N-BUTANE 68476-86-8	-	-
NAPHTHALENE 91-20-3	5.74 - 6.44 mg/L LC50 Pimephales promelas 96 h flow-through; 1.6 mg/L LC50 Oncorhynchus mykiss 96 h flow-through; 0.91 - 2.82 mg/L LC50 Oncorhynchus mykiss 96 h static; 1.99 mg/L LC50 Pimephelas promelas 96 h static; 31.0265 mg/L LC50 Lepomis macrochirus 96 h static	2.16 mg/L LC50 Daphnia magna 48 h; 1.96 mg/L EC50 Daphnia magna 48 h Flow-through; 1.09 - 3.4 mg/L EC50 Daphnia magna 48 h static

PERSISTENCE AND DEGRADABILITY: No information available.

BIOACCUMULATION: No information available.

Chemical Name	log Pow
PROPANE/ISOBUTANE/N-BUTANE 68476-86-8	< = 2.8
NAPHTHALENE 91-20-3	3.3

OTHER ADVERSE EFFECTS: No information available

## Section 13: Disposal Considerations

### Waste Treatment

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

CONTAMINATED PACKAGING: Do not re-use empty containers.

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations. Do not re-use empty containers.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - F Series Wastes	RCRA - U Series Wastes
NAPHTHALENE 91-20-3	U165	Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087 K145	Toxic Waste Number F025 Waste Description: Condensed light ends; spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	U165

## Section 14: Transportation Information

DOT GROUND:

CONSUMER COMMODITY ORM-D  
or  
LIMITED QUANTITY

IATA:

UN1950, AEROSOLS, FLAMMABLE, 2.1, LTD. QTY.

IMDG:

UN1950, AEROSOLS, 2.1, LTD. QTY.

## Section 15: Regulatory Information

### INTERNATIONAL INVENTORIES

Chemical Name	TSCA	DSL/NDSL	EINECS/ ELINCS	ENCS	IECSC	KECL	PICCS	AICS
KEROSENE	X	X	X	X	X	X	X	X
PROPANE/ISOBUTANE/ N-BUTANE	X	X	X	Not listed	X	X	X	X
NAPHTHALENE	X	X	X	X	X	X	X	X

#### Legend:

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

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

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

**ENCS** - Japan Existing and New Chemical Substances

**CHINA** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances



## U.S. 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	CAS-No	Weight %*	SARA 313 - Threshold Values %
NAPHTHALENE 91-20-3	91-20-3	0.1 - 1.0	0.1

### SARA 311/312 Hazard Categories

ACUTE HEALTH HAZARD: Yes

CHRONIC HEALTH HAZARD: Yes

FIRE HAZARD: Yes

SUDDEN RELEASE OF PRESSURE HAZARD: Yes

REACTIVE HAZARD: No

### 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):

Chemical Name	CWA Reportable Quantities	CWA Toxic Pollutants	CWA Priority Pollutants	CWA Hazardous Substances
NAPHTHALENE 91-20-3	100 lb	X	X	X

### 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	Extremely Hazardous Substances RQs	RQ
NAPHTHALENE 91-20-3	100 lb 1 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

## U.S. State Regulations

### California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
NAPHTHALENE 91-20-3	X

### U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
KEROSENE 8008-20-6	X	X	X
NAPHTHALENE 91-20-3	X	X	X

**EPA PESTICIDE REGISTRATION NUMBER**: Not applicable

## Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

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### Section 16: Other Information

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**NFPA:** Health Hazard | 2 | Flammability | 4 | Instability | 0 | Physical and Chemical Hazards | - |  
**HMIS:** Health Hazard | 2 | Flammability | 4 | Physical Hazard | 1 | Personal Protection | B |

IARC International Agency for Research on Cancer  
ACGIH American Conference of Governmental Industrial Hygienists  
IARC International Agency for Research on Cancer  
NTP National Toxicity Program  
NIOSH National Institute for Occupational Health and Safety  
TLV-TWA Threshold Limit, Time Weighted Average  
NAERG North American Emergency Response Guidebook  
WHMIS Workplace Hazardous Materials Information System

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This SDS format meets ANSI Z400.1-1998, OSHA 1910.1200 and WHMIS requirements. Radnor provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Product use and conditions of use are beyond the control of Radnor. Warranty of materials is limited to test results of product performance as detailed in certificates of compliance. Interpretation of test results is the responsibility of end-user. No other warranties, expressed or implied, are made.