

September 1, 1985

MATERIAL SAFETY DATA SHEET

ENAMEL REDUCERS

Section I**Manufacturer**

E. I. du Pont de Nemours & Co. (Inc.)
 Finishes & Fabricated Products Dept.
 Wilmington, Delaware 19898
 Telephone: Product information (800) 441-7515
 Medical emergency (800) 441-3637
 Transportation emergency (800) 424-9300
 (CHEMTREC)

Product: Enamel Reducers

D.O.T. hazard class: Flammable liquid
 Paint Related Material NA 1263

Section II — Hazardous Ingredients (See Section X for specific product codes)

Ingredients	CAS No.	Vapor Pressure (20°C mm Hg.)	Exposure Limits*
1. Butyl acetate	123-86-4	8	150ppm-A,0
2. Acetone	67-64-1	185	1000ppm-0
3. Toluene	108-88-3	22	100ppm-A
4. Isopropyl alcohol	67-63-0	31	400ppm-A,0
5. Diethylene glycol monobutyl ether	112-34-5	0.02	5ppm-D
6. Diisobutyl ketone	108-83-8	14	25ppm-A
7. Dibasic esters			
a. Dimethyl glutarate	119-40-0	14(at 100°C)	10 mg/m ³ -D
b. Dimethyl succinate	106-65-0		
c. Dimethyl adipate	627-93-0		
8. Ethyl acetate	141-78-6	76	100ppm-A,D
9. 1-Methoxy-2-propanol acetate	108-65-6	2.4	100ppm-A,0
10. 2-Ethoxy-butyl acetate	112-07-02	0.3	25ppm-A,0
11. VM&P naphtha	64742-89-8	~45	100ppm-A,0
12. Mineral spirits	64742-88-5	~5	100ppm-A,0
13. Aromatic hydrocarbons	64742-95-6	~5	50ppm-A,0
14. n-Butyl alcohol	71-36-3	4	25ppm-D, 100ppm-0
15. Xylene	1330-20-70	8	100ppm-A,0
16. Lead drier	123-96-0	None	.05mg/m ³ As Pb-0
17. Manganese drier	1336-93-2	None	C 5.00mg/m ³ As Mn-0

*A = ACGIH TLV O = OSHA D = Du Pont internal limit
 (C = Ceiling)

Section III — Physical Data

Evaporation rate: Slower than ether
 Vapor density: Heavier than air
 Solubility in water: Slight
 Percent volatile by volume: 100%
 Approximate boiling range: 129°F-426°F
 Density: 6.5-7.5 #/gallon

Section IV: Fire & Explosion Data

Flash point (Method): 20-73F (Closed cup).
 Approx. flammable limits: 1.1-14%.
 Extinguishing media: Foam, carbon dioxide, dry chemical
 Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.
 Unusual fire & explosion hazards: When heated above the flash point, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

Section V — Health Hazard Data

Ingestion: Gastro-intestinal distress.
 In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.
 Inhalation: May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: Headache, dizziness, nausea, staggering gait, confusion, unconsciousness. 1-Methoxy-2-propanol acetate and n-butyl alcohol may cause moderate eye burning and can be absorbed through the skin in harmful amounts. Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors. Extremely high concentrations of butyl acetate have caused blood changes and weakness in laboratory animals. Exposure to lead may cause adverse effects to the blood forming, nervous, urinary and reproductive systems including embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. Repeated extremely high exposures of laboratory animals to ethyl acetate resulted in secondary anemia with an increase in white blood cells, fatty degeneration, cloudy swelling and an excess of blood in various organs. Dibasic esters inhalation overexposure in rats has shown mild injury to the olfactory region of the nose. 2-Ethoxy butyl acetate can be absorbed through the skin in harmful amounts. In studies in laboratory animals has produced damage to red blood cells and kidneys. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. If affected by inhalation of vapor or spray mist, remove to fresh air. If breathing difficulty persists, or occurs later, consult a physician.
 Skin or eye contact: Manganese or lead may cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact wash with soap and water. If irritation occurs, contact a physician.

Section VI — Reactivity Data

Stability: Stable
 Incompatibility (materials to avoid): None reasonably foreseeable

Section VI — Reactivity Data — Continued

Hazardous decomposition products: CO, CO₂, smoke, oxides of heavy metals reported in Section X
Hazardous polymerization: Will not occur

Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled:

Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Confine and remove with inert absorbant.

Waste disposal method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with federal, state and local requirements. Do not incinerate in closed containers.

Section VIII — Special Protection Information

Respiratory: Do not breathe vapors or mists.

When this product is used with a paint requiring isocyanate hardener or activator, wear a continuous flow supplied air respirator (NIOSH/MSHA TC-19C approved) when mixing the hardener/activator with the paint, during application and until all vapor and spray mists are exhausted. Do not permit anyone without respiratory protection in the painting area. Refer to the hardener/activator label instructions and MSDS for further information. Follow the respirator manufacturer's directions for respirator use.

Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.

Protective clothing: Neoprene gloves and coveralls are recommended.

Eye protection: Desirable in all industrial situations. Include splash guards or side shields.

Section IX — Special Precautions

Precautions to be taken in handling and storing: Observe label precautions. Keep away from heat, sparks and flame. Close

container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating or smoking. Do not store above 120°F.
Other precautions: Do not sand, flame cut, braze or weld dry coating without a NIOSH/MSHA approved respirator or appropriate ventilation.

Section X — Product Codes

Product Code	Ingredients
1700S	1, 2, 3, 7, 11
3812S	3, 11
Y3812S	2, 3, 4, 11, 15
3832S	12, 15
Y3832S	2, 3, 11, 12, 13, 14
3864S	12, 13, 15
Y3864S	3, 11, 12
8022S	1, 2, 3, 5, 6, 9, 10, 11, 13
8034S	2, 3, 8, 10, 11, 13
8093S	2, 3, 7, 9, 10, 11, 12
8096S	2, 3, 5, 7, 9, 10, 11, 12, 13
8100S	3, 7, 9, 10, 11, 12
8485S	8, 10
8508S	3, 11, 15, 16, 17
Y8508S	2, 3, 4, 11, 15, 16, 17
8522S	12, 13
Y8522S	2, 3, 9, 11, 12, 13
8575S	3, 8, 11
8585S	3, 8, 9, 11, 15
8595S	9, 13

Notice: The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process.

Product Manager
Refinish Sales

MATERIAL SAFETY DATA SHEET

Radiator Specialty Company

1400 W. INDEPENDENCE BLVD. • CHARLOTTE, N.C. 28208 • 704-377-6555

MATERIAL SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. DEPARTMENT OF LABOR

Occupational Safety and Health Administration.
(Non-Mandatory Form) Form Approved OMB No. 1218-0072

SECTION I GENERAL INFORMATION

PRODUCT NAME	ENGINE BRITE HEAVY DUTY ENGINE CLEANER
PARTS NUMBER	EB-1

NOTE: Blank spaces are not permitted. If any item is not applicable or no information is available, the space must be marked to indicate that.

SECTION II HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

COMPONENT	WT.%	C.A.S. NO.	TLV (ACGIH — OSHA —)
Ethoxylated Nonyl Phenol	4-5	9016-45-9	Not available
Aliphatic Petroleum Distillate	80-84	68476-34-6	500 ppm (Air)
Aromatic Petroleum Distillate	8-9	64742-94-5	100 ppm (Air)
2-Butoxy-1-Ethanol	1-2	111-76-2	25 ppm (Skin)
Sodium Petroleum Sulfonate	1-2	68608-26-4	5 mg/m ³
Carbon Dioxide (Propellant)	1-3	124-38-9	5000 ppm (Air)

Comments: THIS PRODUCT DOES NOT CONTAIN MORE THAN .1% OF ANY KNOWN CARCINOGEN LISTED BY NTP, IARC, OR OSHA.

Components not identified are non-hazardous according to 29 CFR 1910.1200

SECTION III PHYSICAL/CHEMICAL CHARACTERISTICS

Specific Gravity (H ₂ O = 1) <u>.86</u>	pH <u>6-7</u>
Solubility in Water <u>Emulsifies</u>	Solubility in Solvent <u>Petroleum</u>
Flash Point (Method) - F° <u>> 135° (TCC)</u>	% Volatiles By Wt. <u>> 90%</u>
Melting Point - F° <u>N/A</u>	Boiling Point - F° <u>305</u>
Vapor Pressure (mmHg) <u>Not available</u>	Vapor Density (Air = 1) <u>1.2</u>
Evaporation Rate (Butyl Acetate = 1) <u>N/A</u>	
Appearance and Odor <u>Amber liquid with petroleum odor</u>	

SECTION IV FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA: Caution: COMBUSTIBLE!
 Water Fog X Foam X CO₂ X Dry Chemical X

SPECIAL FIRE FIGHTING PROCEDURES. Wear self-contained, positive pressure breathing apparatus and protective clothes. Cool containers with water spray. Use shield to protect from venting or bursting cans.

UNUSUAL FIRE AND EXPLOSION HAZARDS At elevated temperatures containers may vent, rupture or burst, even violently.

SECTION V REACTIVITY DATA

Stable Unstable _____ Corrosive NO Hazardous Polymerization? Yes _____ No

Incompatibilities Strong oxidizing agents.

Hazardous Decomposition or Byproducts High temperatures and ignition sources produce products of combustion: carbon monoxide, sulfur-like smoke.

SECTION VI HEALTH HAZARD INFORMATION

Recommended TLV of Product 100 ppm (Air)

EYE CONTACT Severe irritant. Prolonged exposure may cause eye burns.	SKIN CONTACT Irritant, defatting. Over exposure may cause dermatitis.
INHALATION Over exposure may cause nausea, headache and respiratory irritation.	INGESTION HARMFUL OR FATAL IF SWALLOWED!
OTHER N/A	

SECTION VII EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT	Flush with water for at least 15 minutes. If adverse symptoms persist, consult a physician immediately.
SKIN CONTACT	Wash with soap and water thoroughly. Remove contaminated clothing and launder before re-use.
INHALATION	Move to fresh air immediately. Consult a physician if adverse effects continue.
INGESTION	Drink water, DO NOT INDUCE VOMITING!. Consult a physician immediately. DO NOT ADMINISTER ADRENALIN OR EPINEPHRINE!

SECTION VIII SPECIAL PROTECTION INFORMATION

CONSUMER	BULK HANDLING (Prolonged Exposure)
RESPIRATORY PROTECTION N/A	NIOSH approved respirator.
VENTILATION Use with adequate ventilation	General.
EYE PROTECTION Goggles.	Fully protective goggles or face shield.
PROTECTIVE CLOTHING N/A	Solvent resistant gloves and apron.

SECTION IX PRECAUTIONS FOR SAFE HANDLING AND USE

SPILL OR LEAK PROCEDURE Observing health hazards described above, ventilate area, remove ignition sources. Flush residue with water, confine spill and place in drum.

WASTE DISPOSAL METHOD Dispose of in accordance with all applicable government laws and regulations.

STORAGE AND HANDLING PRECAUTIONS Store in cool place away from ignition sources

OTHER PRECAUTIONS COMBUSTIBLE! KEEP AWAY FROM CHILDREN AND ANIMALS! Wearing of contact lenses is inadvisable. Do not puncture or incinerate containers.

Supersedes November, 1990

OSHA Revised January, 1993

Title I. Liebman, Tech. Director

While Radiator Specialty Company believes this data is accurate as of the revision date, we make no warranty with respect to the data and we expressly disclaim all liability for reliance thereon. The data is offered solely for your information, investigation, and verification.

