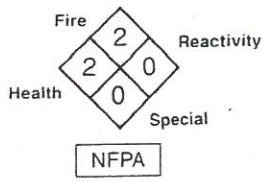
WD-40®



MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Manufacturer:	WD-40 Company	Telephone: Emergency Only:	1 (800) 424-9300 (CHEMTREC)
Address:	1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California 92138-0607	Information:	(619) 275-1400
		Chemical Name:	Organic Mixture
		Trade Name:	WD-40 Bulk Liquid

II. HAZARDOUS INGREDIENTS

Chemical Name	CAS Number	%	Exposure Limit ACGIH/OSHA
Aliphatic Petroleum Distillates	8052-41-3	70	100 ppm PEL
Petroleum Base Oil	64742-65-0	> 20	5 mg/M³ TWA (mist)
Non-hazardous Ingredients		< 10	

III. PHYSICAL DATA

Boiling Point:	300°F (minimum)	Evaporation Rate:	Not determined
Vapor Density (air = 1):	Greater than 1	Vapor Pressure:	Not determined
Solubility in Water:	Insoluble	Appearance:	Cloudy light amber
Specific Gravity ($H_20 = 1$):	.800 @ 70°F	Odor:	Characteristic odor
Percent Volatile (volume):	74%	VOC:	568 grams per liter

IV. FIRE AND EXPLOSION

Flash Point:	Tag Open Cup 110°F (minimum)
Flammable Limits:	(solvent portion) [Lel] 1.0% [Uel] 6.0%
Extinguishing Media:	CO_2, Dry Chemical, Foam
Special Fire Fighting Procedures:	None
Unusual Fire and Explosion Hazards:	None

V. HEALTH HAZARD / ROUTE(S) OF ENTRY

Threshold Limit Value

Aliphatic Petroleum Distillates (Stoddard solvent) lowest TLV (ACGIH 100 ppm.)

Symptoms of Overexposure

Inhalation (Breathing): May cause anesthesia, headache, dizziness, nausea and upper respiratory irritation.
Skin Contact: May cause drying of skin and or irritation.
Eye Contact: May cause irritation, tearing and redness.
Ingestion (Swallowed): May cause irritation, nausea, vomiting and diarrhea.

First Aid Emergency Procedures

Ingestion (Swallowed): Do not induce vomiting, seek medical attention.
Eye Contact: Immediately flush eyes with large amounts of water for 15 minutes.
Skin Contact: Wash with soap and water.
Inhalation (Breathing): Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

DANGER!

Aspiration Hazard: If swallowed can enter lungs and may cause chemical pneumonitis. Do not induce vomiting. Call Physician immediately.

Suspected Cancer Agent

Yes_____ No__X__ The components in this mixture have been found to be noncarcinogenic by NTP, IARC and OSHA.

VI. REACTIVITY DATA

Stability:	Stable X	Unstable
Conditions to avoid:	NA	
Incompatability:	Strong oxidizing materials	
Hazardous decomposition products:	Thermal decomposition may yield carbon monoxide and/or carbon dioxide.	
Hazardous polymerization:	May occur	Will not occur X

VII. SPILL OR LEAK PROCEDURES

Spill Response Procedures

Absorb small quantities with sand, earth, sawdust. Large quantities pump into tank.

Waste Disposal Method

Incinerate liquid, bury saturated absorbent in land fill. Dispose of in accordance with local, state and federal regulations.

VIII. SPECIAL HANDLING INFORMATION

Ventilation:	Sufficient to keep solvent vapor less than TLV.
Respiratory Protection:	Advised when concentrations exceed TLV.
Protective Gloves:	Advised to prevent possible skin irritation.
Eye Protection:	Approved eye protection to safeguard against potential eye contact, irritation or injury.
Other Protective Equipment:	None required.

IX. SPECIAL PRECAUTIONS

Keep from open flame, do not take internally. Avoid excessive inhalation of spray particles. Keep from children.

X. TRANSPORTATION DATA

Domestic Surface

Description:	Petroleum Distillates N.O.S.
Hazard Class:	Combustible Liquid
ID No.:	UN 1268
Packaging Group:	III
Label Required:	NONE, for containers less than 100 Gallons

Domestic Air

Description:	Petroleum Distillates N.O.S. (Stoddard Solvent)
Hazard Class:	3 UN 1268 PGIII
Label Required:	Flammable Liquid

XI. REGULATORY INFORMATION

All ingredients for this product are listed on the TSCA inventory.

SARA Title III chemicals:	None
California Prop 65 chemicals:	None
CERCLA reportable quantity:	None
RCRA hazardous waste no:	D001 (Ignitable)

SIGNATURE: R. Miles R Miles TITLE: Technical Director

REVISION DATE: October 1993 SUPERSEDES: August 1992

A = Not applicable NDA = No data available < = Less than > = More t

We believe the statements, technical information and recommendations contained herein are reliable. However, the data is provided without warranty, expressed or implied. It is the users responsibility both to determine safe conditions for use of this product and assume loss, damage or expense, direct or consequential, arising from its use. Before using product, read label.

WD-40® Technical Data.

Physical Characteristics

APPEARANCE	Clear or slightly cloudy
COLOR	Light amber
ODOR	Very slight characteristic pleasant odor
SPECIFIC GRAVITY	.800 ± .020 at 72° F.
VISCOSITY	27.5 ± 1.0 sec. Zahn # 1 at 72° F.
FLASH POINT (MINIMUM)	110°F. TOC
PERCENT NON-VOLATILE (MINIMUM)	22% by weight
PERCENT VOLATILE (MAXIMUM)	78% by weight aliphatic petroleum distillate
POUR POINT	Less than -100° F
LOW TEMPERATURE STABILITY	Excellent
COVERAGE	600 to 1000 sq. ft. per gal.
BOILING POINT (INITIAL)	300°F (minimum)
WEIGHT, applied coating	3.4×10^{-4} lbs./sq. ft.
THICKNESS	.0001 to .0003 inch
OPERATING TEMPERATURE	-50°F to 300°F

Properties

CORROSION PROTECTION:
(on freshly sanded mild steel panels)

EXPOSURE	RESULTS
Humidity (JAN-H-792)	No rust after 1000 hours
Salt Spray (FED STD 151)	No rust after 50 hours
Salt Spray (FED STD 151)	Rust beginning after 100 hours

Under actual conditions the duration of protection obtained using WD-40 will vary with the type of material being protected and the conditions of exposure. Generally, on mild steel the protection under various conditions will be approximately as follows:

1. Covered or indoor storage 1 year or longer
2. Protected exterior storage 6 months to 1 year
3. Normal exterior exposure 30 to 60 days
4. Severe exterior exposure 15 to 30 days (on or very near the beach, subject to high humidity, salt spray and salt fog)

If longer protection is desired, WD-40 should be lightly reapplied when necessary.

LUBRICATION: Dynamic coefficient of friction

BEARING PRESSURE	COEFFICIENT	TEST
100 psi	0.112	Heat treated 4340 steel
1000 psi	0.114	with normal blue oxide
2000 psi	0.129	film against itself lubricated
3000 psi	0.138	with WD-40
4000 psi	0.145	

ELECTRICAL: Dielectric strength ASTM D-877 12,000 V. per 0.100 in.

Contact resistance ASTM B-182 modified

	BARE CONTACTS	WD-40 TREATED CONTACTS	CONTACT RESISTANCE OF FILM
before cycling	0.0066	0.0083 ohm	0.0017 ohm
after 5 cycles	0.0067	0.0085 ohm	0.0018 ohm
after 100 cycles	0.0069	0.0086 ohm	0.0017 ohm
after 1000 cycles	0.0074	0.0085 ohm	0.0011 ohm
after 20,000 cycles	0.0083	0.0098 ohm	0.0016 ohm

Effect on Materials

GENERAL: Nearly all materials react to WD-40 as they would to high grade aliphatic petroleum spirits with the same exposure, i.e., spray, quick dip or prolonged immersion. *WD-40 contains no silicone, teflon or chlorofluorocarbons.*

RUBBER: No visible effects on surfaces of various types of rubber sprayed with WD-40. Certain types of rubber will swell upon prolonged immersion in WD-40.

HIGH STRENGTH STEELS (for hydrogen embrittlement): Certified SAFE according to the Lawrence Hydrogen Effusion Test.

FABRICS: The following fabrics were exposed to WD-40 with no effect, except slight staining which was readily removed with naphtha or dry cleaning solvent: Nylon, Orlon, Wool, Dacron, Cotton.

PAINTED SURFACES: Many types of paint on various surfaces have been exposed to WD-40 with no effect. Wax polishes and certain wax coatings may be softened by WD-40.

PLASTICS: The following plastics were immersed in WD-40 for 168 hours with no visible effects:

Polyethylene	Formica	Epoxy	Delrin
Polypropylene	Acrylic	Vinyl	
Teflon	Polyester	Nylon	

Clear polycarbonate and polystyrene may stress craze or crack in contact with WD-40.

WD-40 and the Environment

WD-40 is a positive contributor to the preservation of the environment. Here are a few facts about WD-40 and the environment:

- WD-40 does not contain Chlorofluorocarbons (CFC's), HCFC's, Halon's or 1.1.1. Trichlorethane (Methyl Chloroform); chemicals that are alleged to contribute to the depletion of the stratospheric ozone layer.
- WD-40 contains no known cancer causing chemicals.
- Aerosol containers are sealed so their contents can't leak, spill or become contaminated.
- WD-40 cans contain recycled steel and when empty can be recycled again.
- WD-40 cans are shipped to our customers in recycled corrugated cartons.
- WD-40 Company uses recycled paper whenever possible in our advertising materials.
- In June, 1991, WD-40 replaced "styrofoam peanuts" foam used for packaging with eco-foam made of 95% cornstarch.
- By extending the usage of equipment and postponing its disposal, we save natural resources and energy while reducing the generation of solid waste.

USDA APPROVED (H-2 Classification)

DANGER: COMBUSTIBLE. HARMFUL OR FATAL IF SWALLOWED. Contains petroleum distillates. If swallowed, do not induce vomiting. Call physician immediately. Use in ventilated area. Keep from children.

WD-40 COMPANY, 1061 Cudahy Place, San Diego, California 92110
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