STANADYNE **POWERPRODUCTS**

John Deere
8503-80,031
TY22030, TY22056
Product End 12/95

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

STANADYNE PERFORMANCE FORMULA®, DIESEL FUEL CONDITIONER

Power Products Division
Stanadyne Automotive Corp.
92 Deerfield Road
Windsor, CT 06095
(860) 525-0821, Ext. 5325

Generic/Chemical Name:	Petroleum hydrocarbon mixture
Product Type:	Fuel additive
Preparation/Revision Date:	September 10, 1998
Emergency Phone No.:	(CHEMTREC) 1-800-424-9300
MSDS Number:	00292

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS #	OSHA PEL TWA (ppm)	ACGIH TLV TWA (ppm)	NIOSH REL TWA (ppm)	%
Stoddard Solvent; Mineral Spirits	8052-41-3	500	100	350[1]	40-50
Octylnitrate; 2-Ethylhexylnitrate	27247-96-7	N/L[2]	N/L[2]	N/L[2]	20-30
Mineral Oils	64742-52-5, 64742-54-7	5 (mist)[1]	5 (mist)[1]	5 (mist)[1]	10-20
*Butyl Cellosolve; 2-Butoxyethanol; Ethylene Glycol Monobutyl Ether; EGBE	111-76-2	50 (skin)	25 (skin)	5 (skin)	5
*1,2,4-Trimethylbenzene; Pseudocumene	95-63-6	N/L[2]	25	25	2.8
1,3,5-Trimethylbenzene; Mesitylene	108-67-8	N/L[2]	25	25	1-5
Hydroxyethylated Aminoethylamide	-	-	-	-	0.1-0.9
Petroleum Distillate	68477-31-6	-	-	-	0.1-0.9

[1] mg/m³
[2] N/L - No Limit

*SARA 313 Listed Ingredient or Compound

NOTE: OTHER HAZARDOUS INGREDIENTS NOT LISTED ARE UNDER THE 1% DEMINIMUS CONCENTRATION, OR UNDER 0.1% FOR CARCINOGENS.

Power Products Division, Stanadyne Automotive Corp.
92 Deerfield Road, Windsor, CT 06095 USA Tel: (860) 525-0821; Fax:

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To Courtney | From
Co./Dept. Munroe | Co.
Phone # | Phone #
Fax # | Fax #

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SECTION 3 - HAZARDS IDENTIFICATION

Principal Hazards: DANGER
- CAUSES EYE IRRITATION. RISK OF IRREVERSIBLE EYE DAMAGE.
- HARMFUL IF INHALED.
- HARMFUL OR FATAL IF SWALLOWED
- CAUSES SKIN IRRITATION.
- CAUSES RESPIRATORY TRACT IRRITATION.
- HARMFUL IF ABSORBED THROUGH SKIN.
- COMPONENT(S) KNOWN TO CAUSE CHRONIC HUMAN HEALTH EFFECTS.
- COMBUSTIBLE LIQUID.

NFPA Code:	Health: 2	Fire: 2	Reactivity: 1
HMIS Code:	Health: 2	Fire: 2	Reactivity: 1

See Section 11 for more complete health hazard information.

SECTION 4 - FIRST AID MEASURES

Oral - DO NOT INDUCE VOMITING. Do not give liquids. Get immediate medical attention. Do not leave individual unattended.
Eye - Flush immediately with water for at least 15 minutes. Get immediate medical attention.
Skin - Wash immediately with soap and water. Immediately remove contaminated clothing. Get medical attention if irritation persists. Launder contaminated clothing before reuse and discard shoes and other leather articles saturated with the material.
Inhalation - Remove exposed person to fresh air. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If irritation persists or if toxic symptoms are observed, get medical attention.
Additional - Note to physician: treat symptomatically.

SECTION 5 - FIREFIGHTING MEASURES

Flash Point - 37.8° C, 100° F Pensky Martens Closed Cup (PMCC)
Upper Flammable Limit - Not Determined
Lower Flammable Limit - Not Determined
Extinguishing Media - CO_2, dry chemical, or foam. Water can be used to cool and protect exposed material.
Special Firefighting Procedures - Recommend wearing self-contained breathing apparatus. Wear structural firefighter's protective clothing. Water may cause splattering. Material will float on water.
Unusual Fire & Explosion Hazards - Toxic fumes, gases, and vapors may evolve on burning. Vapors may be heavier than air and may travel along the ground to a distant ignition source and flash back. Container may rupture on heating. Toxic nitrogen oxides may evolve when burning. The alkyl nitrate (octylnitrate) contained in this product may undergo a self-accelerating exothermic reaction if heated above 212° F (100° C).
Autoignition Temperature - Not Determined.

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SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill Procedures - Evacuate all non-essential personnel. Personal Protective Equipment (PPE) must be worn (see Personal Protection Section for PPE recommendations). Remove sources of ignition. Ventilate spill area. Prevent entry into sewers and waterways. Pick up or transfer free liquid to clean containers for recycle and/or disposal. Residual liquid can be absorbed on inert material. Transfer contaminated absorbent, soil, and other materials to containers for proper waste disposal. Consult local, state, and federal laws and regulations for reporting requirements for spills.

SECTION 7 - HANDLING AND STORAGE

Handling Procedures - Keep away from potential sources of ignition. Open container in a well ventilated area. Avoid breathing vapors. Keep containers closed when not in use. DO NOT HEAT. Wash thoroughly after handling. Material will accumulate static charges which may cause an electric spark (ignition source). Use proper grounding procedures. Empty containers retain material residue. Do not cut, weld, braze, solder, drill, grind or expose containers to heat, flame, spark or other sources of ignition.
Storage Procedures - Do not store near potential sources of ignition. Store in well ventilated area. Store at ambient temperatures.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation Procedures - Use local exhaust ventilation to control mists or vapors. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits.
Gloves Protection - Viton. Nitrile.
Eye Protection - Splash proof chemical goggles or full faceshield.
Respiratory Protection - Use NIOSH approved full face respirator with a combination organic vapor and high efficiency filter cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.
Clothing Recommendation - Avoid skin contact. Long-sleeved shirt is recommended. Wear either a chemical protective suit or apron when potential for contact with material exists. When working with heated material, wear heat protective clothing. Use neoprene or nitrile rubber boots when necessary to avoid contaminating shoes. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin reaction.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure:	Not Determined
pH:	Not Applicable
Specific Gravity:	0.83 at 4° C
Water Solubility:	Insoluble
Percent Volatile:	75% (estimate)
Vapor Density:	Not Determined
Odor:	Pungent
Appearance:	Dark colored liquid
Viscosity:	Not Determined

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NOTE: THIS PRODUCT HAS NOT BEEN TESTED FOR HAZARD INFORMATION FOR THE MIXTURE. THE FOLLOWING SECTIONS ARE BASED ON THE INDIVIDUAL INGREDIENT/COMPONENT HAZARDS.

SECTION 10 - STABILITY AND REACTIVITY

Stability - Material can become unstable at elevated temperatures and pressures.
Incompatibility - Alkalis. Strong oxidizing agents. Nitriles.
Polymerization - Will not occur.
Thermal Decomposition - Smoke, carbon monoxide, aldehydes and other products of incomplete combustion. Under combustion conditions, oxides of the following elements will be formed: nitrogen.

SECTION 11 - TOXICOLOGICAL INFORMATION

– ACUTE EXPOSURE –

Oral Toxicity - Swallowing material may cause irritation of the gastrointestinal lining, nausea, vomiting, diarrhea, and abdominal pain. Ingestion of this material may cause headache, dizziness, uncoordination, and general weakness. Ingestion may cause red blood cell hemolysis and possible liver and kidney injury. Harmful or fatal if swallowed - pulmonary aspiration hazard.
Eye Irritation - Eye irritant. Risk of irreversible damage to eyes.
Skin Irritation - Skin irritant. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
Dermal Toxicity - Skin absorption of components of this material may cause systemic effects; note toxicity from other sections.
Inhalation Toxicity - High concentrations may cause headaches, dizziness, nausea, stupor, and other central nervous system effects leading to visual impairment, difficulty breathing and convulsions. This material is also a pulmonary irritant.
Respiratory Irritation - Nose, throat, and lung irritant.
Dermal Sensitization - No data available to indicate product or components may be skin sensitizers.
Inhalation Sensitization - No data available to indicate product or component may be respiratory sensitizers.

– CHRONIC EXPOSURE –

Chronic Toxicity - Repeated overexposure to butyl cellosolve may cause hemolysis of the red blood cells leading to possible liver and kidney damage. Repeated overexposure to aliphatic mineral spirits such as Stoddard solvent can cause chronic nervous system disease.
Carcinogenicity - This product does not contain carcinogens exceeding the 0.1% deminimus level. Lifetime skin painting studies with products similar to kerosene usually produce skin tumors and a skin cancer in laboratory mice. The degree of carcinogenic response was weak to moderate with a relatively long latent period. Limited studies on carcinogenic oils have shown that washing the animal's skin with soap and water between applications greatly reduces tumor formation. This product is formulated with mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

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SECTION 11 - TOXICOLOGICAL INFORMATION (CONTINUED)

Mutagenicity - Results of in-vivo mutagenicity tests for butyl cellosolve have been negative. Results of in-vitro mutagenicity tests have been inconclusive.
Reproductive Toxicity - No data available to indicate either product or components present at greater than 0.1% may cause reproductive toxicity.
Teratogenicity - Studies do not establish a risk of birth defects in humans. In animal teratology studies for butyl cellosolve, material and embryo lethality were observed at exposures of 300 ppm, and material toxicity and embryo toxicity were observed at exposures of 100-200 ppm.
No evidence of adverse effects were found in a developments toxicity study of 2-ethylhexanol in rats. Doses up to 3 ml/kg applied to the skin during the most critical part of the gestation period produced evidence of toxicity to mothers, but no evidence of injury in the developing offspring. In a previous study, birth defects were observed by oral administration, an unlikely route of exposure in the workplace.

SECTION 12 - ECOLOGICAL INFORMATION

Freshwater Fish Toxicity - The acute LC50 for freshwater fish is 1-10 ppm, based on component data.
Freshwater Invertebrates Toxicity -The acute EC50 for freshwater invertebrates is 1 - 10 ppm, based on component data.
Algae Toxicity - Not Determined.
Saltwater Fish Toxicity - Not Determined.
Saltwater Invertebrates Toxicity - Not Determined.
Bacteria Toxicity - The acute EC50 for bacteria is 10 - 100 ppm, based on component data.
Miscellaneous Toxicity - Not Determined.
Biodegradation - Laboratory studies indicate limited biodegradation with non-acclimated sludge, based on component data. Laboratory studies indicate potential biodegradation with acclimated sludge, based on component data.
Bioconcentration - Not Determined.
Soil Mobility - Not Determined.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal - Material, if discarded, is expected to be hazardous waste under RCRA due to ignitability and toxicity. Consider U.S. EPA RCRA Hazardous Waste Number D001 and its associated treatment standard. If discarding this material, consider the possible relevance of the presence of the following chemicals and the treatment standards for the associated U.S. EPA RCRA Hazardous Waste Numbers: < 1 ppm benzene, CAS No. 71-43-2. D018.

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SECTION 14 - TRANSPORT INFORMATION

U.S. DOT Bulk Shipping Description - Combustible Liquid, n.o.s. (Contains Stoddard solvent, 2-ethylhexylnitrate), Combustible Liquid, NA1993, PG III-Marine Pollutant[1]
U.S. DOT Non-Bulk Shipping Description (individual packages less than 119 gallons/450 liters and greater than or equal to 1.3 gallons/5.0 liters) - Combustible Liquid, n.o.s. (Contains Stoddard solvent, 2-ethylhexylnitrate), Combustible Liquid, NA1993
U.S. DOT Non-Bulk Shipping Description (individual packages less than 1.3 gallons/5.0 liters) - Not applicable unless transported by aircraft.
IMDG Code Shipping Description - Flammable Liquids, n.o.s. (Contains Stoddard solvent, 2-ethylhexylnitrate, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene), Class 3.3, UN1993, PG III-Marine Pollutant
ICAO Shipping Description - Flammable Liquids, n.o.s. (Contains Stoddard solvent), Class 3, UN1993, PG III
ADR/RID Hazard Class - 3 Item number 31(c)
[1]Since this material has a flash point of greater than or equal to 37.5° C and less than 60.5° C, the U.S. DOT Hazardous Materials Regulations allow it to be classified as a Combustible Liquid unless transported by vessel or aircraft.,

The information and recommendations presented in this Material Safety Data Sheet are based on sources believed to be reliable on the date hereof. Stanadyne Automotive Corp. makes no representation on its completeness or accuracy. This product is sold "as is" and it is the user's responsibility to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. The statements and descriptions provided are informational only and no representations or warranties, either express or implied, of merchantability or fitness for a particular purpose or of any other nature are made with respect to the information provided in this Material Safety Data Sheet or to the product to which such information refers. Stanadyne Automotive Corp. neither assumes nor authorizes any other person to assume for it, any other or additional liability or responsibility resulting from the use of, or reliance upon, this information. Stanadyne Automotive Corp. assumes no responsibility for injury to recipient or to third persons or for any damage to any property and recipient assumes all such risks.