



## MATERIAL SAFETY DATA SHEET

### Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHS Inc.  
P.O. Box 64089  
Mail station 525  
St. Paul, MN 55164-0089

Transportation Emergency (CHEMTREC): 1-800-424-9300  
Technical Information: 1-651-355-8443  
MSDS Information: 1-651-355-8438

PRODUCT NAME: No. 2 Ultra Low Sulfur Diesel Fuel B2-B20

MSDS: 0206-M1A0.4 – Rev. A (04/18/08)

COMMON NAME: #2 Diesel Fuel, #2 Distillate Blend

CHEMICAL FORMULA: Mixture

CHEMICAL NAME: Petroleum Distillate

CHEMICAL FAMILY: A mixture of paraffinic, olefinic, naphthenic, aromatic hydrocarbons and methyl soyate

### Section 2 - COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENTS	PERCENTAGES (by weight)	PEL (OSHA)	TLV (ACGIH)	CAS #
Diesel Fuel	80-98%	N/D	N/D	68476-34-6
Methyl Soyate	2-20 %	N/D	N/D	67784-80-9

Other components: 1,2,4- Trimethylbenzene (95-52-4, <0.6%), Biphenyl (92-52-4, <0.6%), Xylene (1330-20-7, <0.2%)  
Naphthalene (91-20-3, <0.2%)

(TWA) - Time Weighted Average is the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded.

(STEL) - Short Term Exposure Limit is the employee's 15-minute time weighted average exposure which shall not be exceeded at any time during a work day unless another time limit is specified.

### Section 3 - HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

A clear, to yellow or red liquid with a hydrocarbon odor. **Danger! Harmful or Fatal If Swallowed**

OSHA Hazard Classes

Based on OSHA definitions, the following ingredients in this product are hazardous. The OSHA physical and health Hazard categories are shown below. **Note: CHS has not conducted specific toxicity tests on this product.**

**Our hazard evaluation is based on information from similar ingredients, technical literature, and/or professional experience.**

Diesel Fuel - Combustible, toxic (moderate), target organ (Skin, Central Nervous System)

#### POTENTIAL HEALTH EFFECTS

**ROUTES OF ENTRY:** (Eye Contact, Dermal, Inhalation, Ingestion.)

#### **ACUTE EFFECTS OF OVER EXPOSURE:**

**Eyes** - Contact with eyes may cause irritation.

**Skin** - Contact with skin may cause irritation.

**Inhalation** - May cause respiratory tract irritation. High levels may cause headache, dizziness, nausea, vomiting in-coordination and unconsciousness.

**Ingestion** - May cause nausea, vomiting, cramping, diarrhea, and central nervous system depression. Pulmonary irritation from exhaling solvent and delayed signs of liver and kidney damage may also occur.

**CHRONIC EFFECTS OF OVER EXPOSURE:** Dermatitis from chronic exposure. Projects of similar composition (boiling ranges of 100-700; naphtha, jet fuel, diesel fuel, etc.) were tested on laboratory animals by repeatedly applying and never washing from the animal's skin. Weak to moderately positive results were found in mouse skin cancer studies, mixed and inconsistent results were found in mutagenicity studies, and negative results were found in rate teratology studies. A few studies have shown that washing the animal's skin with soap and water between treatment greatly reduces the carcinogenic skin cancer in humans. This material is not listed as a carcinogen by International Association for Research on Cancer, or Occupational Safety and Health Administration.

Prolonged exposure from inhalation of vapors may cause dizziness, weakness, weight loss, anemia, nervousness, pains in the limbs, peripheral numbness, and paresthesia. Degenerative changes in the liver and kidneys may occur after prolonged exposure to high concentrations.

The National Institute for Occupational Safety and Health (NIOSH), based on findings or carcinogenic and tumorigenic responses of mice and rats exposed to whole diesel exhaust, recommends that diesel exhaust be regarded as a "potential occupational carcinogen".

**Medical Conditions Aggravated By Exposure:** Conditions which have the same symptoms or effects as stated above.

**Carcinogenic Potential:** this material may contain ethylbenzene and naphthalene at concentrations above 0.1%. IARC has identified ethylbenzene and naphthalene as possibly carcinogenic to humans (group 2) based on laboratory animal studies. NTP has determined that exposure to diesel exhaust particulates, a complex mixture of combustion products of diesel fuel, is reasonably anticipated to be a human carcinogen.

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## Section 4 - FIRST AID MEASURES

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### EMERGENCY AND FIRST AID PROCEDURES:

**Eye Contact** - If material comes in contact with the eyes, immediately wash the eyes with large amounts of water for fifteen minutes, occasionally lifting the lower and upper lids. Get medical attention.

**Skin Contact** - If the material comes in contact with the skin, wash the contaminated skin with soap and water promptly. If the material penetrates through clothing, remove the clothing and wash the skin with soap and water promptly. If irritation persists after washing, get medical attention immediately.

**Inhalation** - If person breathes in large amounts of material, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the person warm and at rest. Get medical attention as soon as possible.

**Ingestion** - If material has been swallowed, do not induce vomiting. Get medical attention immediately.

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## Section 5 - FIRE - FIGHTING MEASURES

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**FLASH POINT:** >125°F (>52°C) (PMCC)

**AUTO IGNITION TEMP:** >494°F

**FLAMMABLE LIMITS IN AIR**  
% BY VOLUME

LOWER  
0.6

UPPER  
7.5

**EXTINGUISHING MEDIA:** Use water spray to cool fire exposed surfaces and to protect personnel. Use foam, dry chemical or water spray (fog) to extinguish fire.

**SPECIAL FIRE FIGHTING PROCEDURES:** Water may be ineffective on flames, but should be used to keep fire-exposed containers cool. Water or foam sprayed into container or hot burning product could cause frothing and endanger fire fighters. Large fires, such as tank fires, should be fought with caution. If possible, pump the contents from the tank and keep adjoining structures cool with water. Avoid spreading burning liquid with water used for cooling purposes. Do not flush down public sewers. Avoid inhalation of vapors. Fire fighters should wear self-contained breathing apparatus. Combustion may produce CO, CO2, oxides of nitrogen, oxides of sulfur, and reactive hydrocarbons.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Vapors are heavier than air and may travel along the ground to a source of ignition (pilot light, heater, electric motor) some distance away. Containers, drums (even empty) can explode when heat (welding, cutting, etc.) is applied.

**HAZARD RATINGS:**    **NFPA 704:**    Health- 0        Fire- 2        Reactivity- 0  
**HMIS:**                    Health- 1        Fire- 2        Reactivity- 0

**Section 6 - ACCIDENTAL RELEASE MEASURES**

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**STEPS TO TAKE IF MATERIAL IS RELEASED OR SPILLED:** Remove all sources of ignition. Notify emergency response personnel as appropriate. If facility or operations has an “Oil or Hazardous Substance Contingency Plan”, “Spill Prevention Control & Countermeasures (SPCC) Plan” or equivalent, activate its procedures. Prohibit persons not wearing protective equipment from entering the area. Stop leak at source, contain spill to prevent spreading. Small spills can be removed with inert absorbent. Dike area of large spill to prevent runoff to sewers, streams, etc. Ventilate area. Avoid breathing vapors.

**Section 7 - HANDLING AND STORAGE**

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**HANDLING AND STORING:** Transport, handle and store in accordance with OSHA Regulations 29 CFR 1910.106, and applicable D.O.T. regulation. Caution: Misuse of empty containers can be hazardous. Empty containers can be hazardous since emptied containers retain product residue (vapor, liquid, and/or solid). Cutting or welding empty containers might cause fire, explosion or toxic fumes from residues.

**Section 8 - EXPOSURE CONTROL - PERSONAL PROTECTION**

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**ENGINEERING CONTROLS:** Ventilation requirements: Provide adequate local or dilution ventilation to keep vapors below permissible concentrations.

**RESPIRATORY EQUIPMENT:** Personnel should never enter areas of high concentrations without proper respiratory protection. If exposure limits for product or components are exceeded, NIOSH-approved respiratory protection equipment should be worn. Proper selection of respirators should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. Self-contained breathing apparatus or supplied air respiratory protection required for entry into tanks, vessels, or other confined spaces containing #2 Distillate Fuel.

**EYE PROTECTION:** Chemical goggles or face shield where contact with liquid or mist may occur.

**PROTECTIVE CLOTHING:** Impervious clothing and gloves when contact with skin may occur.

**OTHER (SAFETY SHOWERS, EYE WASH STATIONS, ETC.):** Water should be available for flushing and washing when exposure exists. Launder soiled clothes. Discard shoes or other leather articles saturated with the material.

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

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**APPEARANCE:** clear, yellow to red liquid

**ODOR:** Mild hydrocarbon odor

**BOILING POINT:** 309°F - 700°F

**SPECIFIC GRAVITY (water=1):** 0.8400 - 0.9000

**VAPOR PRESSURE:** <2.6 mm Hg @ 122° F

**VAPOR DENSITY (air=1):** >4

**SOLUBLE IN WATER:** Insoluble

**EVAPORATION RATE (ether=1):** slower

**pH:** N/D

## Section 10 - STABILITY AND REACTIVITY

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### STABILITY:

STABLE  X  (At room temperature and pressure. See handling and storage section)

UNSTABLE    

### INCOMPATIBILITY -

**CONDITIONS TO AVOID:** Heat, flame, static electricity and other ignition sources.

**MATERIALS TO AVOID:** Strong oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition products may include carbon monoxide, carbon dioxide, and other petroleum decomposition products (hydrocarbons).

**HAZARDOUS POLYMERIZATION:** Has not been reported to occur under normal temperatures and pressures.

## Section 11 - TOXICOLOGY INFORMATION

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**Note:** CHS has not conducted specific toxicity tests on this product.

## Section 12 - ECOLOGICAL INFORMATION

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**Note:** CHS has not conducted specific ecological tests on this product.

## Section 13 - DISPOSAL CONSIDERATION

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**WASTE DISPOSAL PROCEDURES:** Place contaminated materials in a disposable container and dispose of in accordance with Local, State and Federal environmental regulations. Recycle as much of the recovered product as possible. Do not flush to drain or storm sewer or otherwise release to the environment.

## Section 14 - TRANSPORTATION

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**DOT PROPER SHIPPING NAME:** Fuel Oil #2

**DOT HAZARD CLASS:** Combustible Liquid

**DOT IDENTIFICATION NUMBER:** NA 1993

**DOT EMER. RESPONSE GUIDE NO.:** 128

(formerly # 27)

Proper Shipping Name-**Fuel Oil #2**; Hazard Class-**3**; UN/NA Identification #-**NA1993**; Packing Group-**III**; Placard-**Combustible Liquid**

## Section 15 - REGULATORY INFORMATION

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This product does not contain toxic chemicals subject to the reporting requirements of SARA Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

CAS Number

Chemical Name

Percent by Weight

**SARA SECTION 311-312 HAZARD CATEGORIES (40 CFR 370.2):**

**FIRE:** Yes

**SUDDEN RELEASE OF PRESSURE:** No

**REACTIVE:** No

**ACUTE:** Yes **CHRONIC:** Yes

**Section 16 - OTHER INFORMATION**

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Date: April 18, 2008

Supersedes: NA

Reason for Issue: As required

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THE INFORMATION CONTAINED IN THIS MSDS RELATES ONLY TO THE SPECIFIC MATERIAL IDENTIFIED. IT DOES NOT COVER USE OF THAT MATERIAL IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY PARTICULAR PROCESS. IN COMPLIANCE WITH 29 C.F.R. 1910.1200(g), CHS HAS PREPARED THIS MSDS IN SEGMENTS, WITH THE INTENT THAT THOSE SEGMENTS BE READ TOGETHER AS A WHOLE WITHOUT TEXTUAL OMISSIONS OR ALTERATIONS. CHS BELIEVES THE INFORMATION CONTAINED HEREIN TO BE ACCURATE, BUT MAKES NO REPRESENTATION, GUARANTEE, OR WARRANTY, EXPRESS OR IMPLIED, ABOUT THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THE INFORMATION OR ABOUT THE FITNESS OF CONTENTS HEREIN FOR EITHER GENERAL OR PARTICULAR PURPOSES. PERSONS REVIEWING THIS MSDS SHOULD MAKE THEIR OWN DETERMINATION AS TO THE MATERIAL'S SUITABILITY AND COMPLETENESS FOR USE IN THEIR PARTICULAR APPLICATIONS.



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