



CITGO Petroleum Corporation
P. O. Box 3758
Tulsa, Oklahoma 74102

Material Safety Data Sheet

Product Name: CITGO Base Oils SUS-5

Date: January 22, 1998

Generic Code: BO-S5b

THIS GENERIC MSDS REPRESENTS THE FOLLOWING CITGO PRODUCTS:

Trade Name:

Commodity Code No.:

CITGO 500 Neutral	27-014
CITGO 600 Neutral	27-016
CITGO 650 Neutral	27-009
CITGO 115-125 Bright Stock	27-101
CITGO 150 Bright Stock	27-100
Special Base Oil Heavy	27-061

Synonyms:	Lubricating Oil	Technical Contact:	(918) 495-5933
CAS No.:	Mixture (Refer to Section 1)	Medical Emergency:	(918) 495-4700
CITGO Index No.:	1938	CHEMTREC Emergency:	(800) 424-9300

MATERIAL HAZARD EVALUATION

(Per OSHA Hazard Communication Standard [29 CFR 1910.1200])

Health Precautions: Protect exposed skin from repeated or prolonged exposure.

Safety Precautions: This material will burn when heated. Do not store material in open or unmarked containers.

HMIS Rating¹ Health: 0 Flammability: 1 Reactivity: 0

Components	CAS No.	%	Hazard Data
Refined Petroleum Oil(s)	64741-88-4 64742-01-4	100	Oral LD ₅₀ (rat): > 5 g/kg Dermal and Eyes: Essentially non irritating. Inhalation LC ₅₀ /4H (rat): > 5,000 mg/M ³ Hazard data are based upon similar components.

2.0 PHYSICAL DATA

PHYSICAL HAZARD CLASSIFICATION (Per 29 CFR 1910.1200)

Combustible	No	Flammable	No	Pyrophoric	No
Compressed Gas	No	Organic Peroxide	No	Reactivity	No
Explosive	No	Oxidizer	No	Stable	Yes

¹Hazard Rating: least-0, slight-1, moderate-2, high-3, extreme-4.

CITGO assigned these values based upon an evaluation conducted pursuant to NPCA guidelines. Use of an asterisk (*) indicates that the material may present chronic health effects.

NA-Not Applicable

ND-No Data

NE-Not Established

2.0 PHYSICAL DATA (continued)

Boiling Point, 760 mm Hg, °C (°F):	365 - 460 (689 - 860)
Specific Gravity (60/60 °F) (H ₂ O = 1):	0.88 - 0.91
Vapor Density (Air = 1):	> 1
% Volatiles by Volume:	Negligible
Melting Point, °C (°F):	NA
Vapor Pressure, mm Hg (25°C):	~ 1 x 10 ⁻⁵ to 2 x 10 ⁻⁴
Solubility in Water:	Negligible
Evaporation Rate (n-butyl acetate = 1):	< 1
pH of Undiluted Product:	NA
Appearance and Odor:	Amber to dark amber liquid, mild petroleum odor.

3.0 FIRE AND EXPLOSION DATA

Flash Point, OC, °C (°F):	238 - 322 (460 - 630)
Flash Point, CC, °C (°F):	ND
Autoignition Temperature, °C (°F):	ND
NFPA Rating ² :	Health: <u>0</u> Flammability: <u>1</u> Reactivity: <u>0</u>
Flammable Limits (% by volume in air):	Lower: <u>NA</u> Upper: <u>NA</u>
Extinguishing Media:	CO ₂ , dry chemical, foam, water fog.
Special Fire Fighting Procedure	None.
Unusual Fire or Explosion Hazard	Water may cause frothing. Material may be ignited by sparks or flames.

4.0 REACTIVITY DATA

Stability:	Stable.
Conditions Contributing to Instability:	None.
Incompatibility:	Strong oxidizers.
Hazardous Decomposition Products: (thermal, unless otherwise specified)	CO ₂ , CO, smoke, fumes.
Hazardous Polymerization:	Hazardous polymerization is not expected to occur.

5.0 SPILL, LEAK AND DISPOSAL PROCEDURES

Procedure if Material is Spilled:

- Remove all ignition sources.
- Isolate the area of the spill and restrict access to persons wearing protective clothing.
- Ventilate area of release, as necessary, to disperse vapors and mists.
- **Small Spills:** Absorb released material with non-combustible absorbent. Place into containers for later disposal. (See Waste Disposal section below.)
- **Large Spills:** Evacuate area in the event of significant spills. Evaluate exposure potential. Potential exposure may require the use of respiratory protection. Use protective clothing. Contain spill in temporary dikes to avoid product migration and to assist in recovery. Do not allow material to escape into sewers, ground water, drainage ditches or surface waters.

²Hazard Rating: least-0; slight-1; moderate-2; high-3; extreme-4.

CITGO assigned these values based upon an evaluation conducted pursuant to NFPA guidelines.

5.0 SPILL, LEAK AND DISPOSAL PROCEDURES (continued)

- Administer appropriate first aid.
- Report releases as required to the appropriate federal, state and local authorities.

Waste Disposal:

- It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal.
- Determine compliance status with all applicable requirements prior to disposal.
- Contact the RCRA/Superfund Hotline at (800) 424-9346 or your regional US EPA office for guidance concerning case specific disposal issues.

Protective Measures During Repair and Maintenance of Contaminated Equipment:

- Refer to Section 7.0 - Special Protection Information.
- Drain and purge equipment, as necessary, to remove material residues.
- Use gloves constructed of impervious materials such as heavy nitrile rubber or neoprene and protective work clothing if direct contact is anticipated.
- Eliminate heat and ignition sources.
- Wash exposed skin thoroughly with soap and water.
- Remove contaminated clothing. Launder before reuse.
- Keep unnecessary persons from hazard area.

6.0 HEALTH HAZARD DATA

Health Hazard Classification (Per 29 CFR 1910.1200):

Highly Toxic	No	Sensitizer	No
Toxic	No	Reproductive Effects	No
Corrosive	No	Mutagen	No
Irritant	No	Target Organ	No

Carcinogen:

Product/Component	CAS No.	Conc. (%)	NTP	IARC	OSHA	Other
CITGO Base Oils SUS- 5	Mixture	100	No	No	No	No

Toxicity Summary: Generally of a low order of toxicity.

Major Route of Entry: Inhalation of incidental mists or vapors.

Acute Exposure Symptoms:

Inhalation: In enclosed spaces or when hot, vapors may reach concentrations sufficient to cause drowsiness, dizziness, headache, nausea or respiratory tract irritation. Mist concentrations well above applicable workplace can cause severe lung damage.

Dermal: The products represented by this MSDS are essentially non irritating.

Eye: The products represented by this MSDS are essentially non irritating.

Ingestion: Upon ingestion, gastrointestinal discomfort, diarrhea, and headache can occur.

Injection: Injection under the skin, in muscle or into the blood stream can cause irritation, inflammation, swelling or severe, permanent tissue damage.

6.0 HEALTH HAZARD DATA (continued)

Chronic Exposure Symptoms:

Prolonged and/or frequent contact can cause drying, cracking (dermatitis), folliculitis or skin irritation. Repeated or prolonged overexposure to oil mists can result in oil granuloma formation, respiratory tract irritation and an increased risk of infection.

Other Special Effects:

None expected.

Medical Conditions Aggravated by Exposure:

None.

First Aid and Emergency Procedures for Acute Effects:

Inhalation: Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately.

Dermal: Remove contaminated clothing. Wash exposed skin with soap and water. Launder clothing before use. Seek medical attention if tissue appears damaged or if irritation persists.

Eyes: Flush eyes with cool water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, irritation or pain persists.

Ingestion: Do not induce vomiting unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.

Injection: Injection under the skin, in muscle or into the blood stream is a medical emergency. Seek medical attention immediately.

Notes to Physician:

The viscosity range of the product represented by this MSDS is greater than 500 SUS at 100° F. Accordingly, upon ingestion there is a low risk of aspiration. Emesis or gastric lavage may be considered to evacuate large quantities of material.

Subcutaneous or intramuscular injection requires prompt surgical debridement.

7.0 SPECIAL PROTECTION INFORMATION

Ventilation Requirements:

Use in well ventilated area. In confined space, mechanical ventilation may be required to keep levels of certain components below applicable workplace exposure levels as evaluated by designated and properly trained personnel.

Applicable Workplace Exposure Levels:

Chemical Component	ACGIH TLV TWA ppm (mg/M ³)	ACGIH TLV STEL/ Ceiling (C) ppm (mg/M ³)	ACGIH TLV Skin notation?	OSHA PEL TWA ppm (mg/ M ³)	OSHA PEL STEL/ Ceiling (C) ppm (mg/M ³)	OSHA PEL Skin notation?
Oil Mist, Mineral	(5)	(10)	No	(5)	NE	No

7.0 SPECIAL PROTECTION INFORMATION

Specific Personal Protective Equipment:

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations.

- Respirator:** At elevated temperatures, vapor or mist concentrations may exceed applicable workplace exposure levels. Use a NIOSH or MSHA approved organic vapor/mist chemical cartridge respirator when elevated airborne concentrations are anticipated.
- Eyes:** Use safety glasses. Use chemical splash goggles if splashing is anticipated.
- Dermal:** Use gloves constructed of impervious materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected.
- Clothing or Equipment:** Wear body-covering work clothes to avoid prolonged or repeated exposure. Launder contaminated work clothes before reuse.

8.0 TRANSPORTATION AND SPECIAL PRECAUTIONS

- Storage:** Store in a cool dry, well ventilated area. Do not apply heat or flame to container. Keep separate from strong oxidizing agents.
- Caution:** Misuse of empty containers can be hazardous. Empty containers can be dangerous if use to store toxic, flammable or reactive materials. Cutting or welding of empty containers can cause fire, explosion or release of toxic fumes from residues. Do not pressurize or expose empty containers to open flame or heat. Keep container closed and drum bungs in place. All label warning and precautions must be observed. Return empty drum to a qualified reconditioner. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

DOT Information:

Proper Shipping Name:	Petroleum Lubricating Oils
Hazard Class:	Non-Hazardous
Hazard Identification No.:	None assigned
Packaging Group:	None assigned
Placard:	None
Compatibility Category:	Group 33
CHRIS Code:	OMN

9.0 ENVIRONMENTAL DATA

Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 313 - Toxic Chemicals:

This product is not known to contain any components in concentrations above *de minimis* levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA.

9.0 ENVIRONMENTAL DATA (continued)

Section 311/312 - Hazard Categories:

This product may meet one or more of the criteria for the hazard categories defined in 40 CFR Part 370 as established by Sections 311 and 312 of SARA as indicated below:

Immediate (Acute) Health Hazard:	<u>No</u>	Sudden Release of Pressure Hazard:	<u>No</u>
Delayed (Chronic) Health Hazard:	<u>No</u>	Reactive Hazard:	<u>No</u>
Fire Hazard:	<u>No</u>		

Section 302 - Extremely Hazardous Substances:

This product is not known to contain any components in concentrations greater than one percent that are listed as Extremely Hazardous Substances in 40 CFR Part 355 pursuant to the requirements of Section 302(a) of SARA.

Clean Water Act (CWA):

Under the CWA, discharges of crude oil and petroleum products to surface water without proper Federal and State permits must be reported immediately to the National Response Center at (800) 424-8802.

Comprehensive Environmental Response, Compensation & Liability Act (CERCLA) Section 102 Hazardous Substances:

As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance.

New Jersey Worker and Community Right-to-Know Act:

Petroleum Oil

Toxic Substances Control Act (TSCA):

Reported in TSCA Inventory as:	Product	Components
CITGO Base Oils SUS-5		X

10.0 LABELING

NOTE:

This product has been determined not to be a physical or a health hazard as defined by the OSHA Hazard Communication Standard.

ALL STATEMENTS, INFORMATION, AND DATA PROVIDED IN THIS MATERIAL SAFETY DATA SHEET ARE BELIEVED TO BE ACCURATE AND RELIABLE, BUT ARE PRESENTED WITHOUT GUARANTEE, REPRESENTATION, WARRANTY, OR RESPONSIBILITY OF ANY KIND, EXPRESSED OR IMPLIED. ANY AND ALL REPRESENTATIONS AND/OR WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY DISCLAIMED. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION OR PRODUCTS FOR THEIR PARTICULAR PURPOSE. NOTHING CONTAINED HERE IN IS INTENDED AS PERMISSION, INDUCEMENT OR RECOMMENDATION TO VIOLATE ANY LAWS OR TO PRACTICE ANY INVENTION COVERED BY EXISTING PATENTS, COPYRIGHTS OR INVENTIONS.