

Revision Date: 06 Aug 2021

Page 1 of 12

SAFETY DATA SHEET

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL CVTF 3320

Product Description: Base Oil and Additives
Product Code: 201530203710, 520783-80
Intended Use: Automatic gearbox fluid

COMPANY IDENTIFICATION

Supplier: ExxonMobil Hong Kong Limited

Suite 2301-02&06-08, 23/F, Central Plaza

18 Harbour Road

Wanchai Hong Kong

24 Hour Emergency Telephone 800-968-793 / +1-703-527-3887

Supplier General Contact (852) 2172 8300

Supplier: BRENNTAG CHEMICALS (HK) PTE LTD

6/F, Epoch Industrial Building,

8 Cheung Ho Street,

Tsing Yi, NT Hong Kong

Supplier General Contact (852) 3590 3909/(852)3590 6306

SECTION 2

HAZARDS IDENTIFICATION

This material is hazardous according to UN GHS Revision 4 Criteria. Classification includes all GHS hazard classes and all GHS hazard categories. For hazard categories with two cut-off/concentration limits, classification was based on the higher limit.

CLASSIFICATION:

Acute aquatic toxicant: Category 3. Chronic aquatic toxicant: Category 3.

LABEL:

Symbol: No Symbol

Signal Word: No Signal Word



Revision Date: 06 Aug 2021

Page 2 of 12

Hazard Statements:

Environmental: H412: Harmful to aquatic life with long lasting effects.

Precautionary Statements:

General: P101: If medical advice is needed, have product container or label at hand. P102: Keep out

of reach of children. P103: Read label before use. Prevention: P273: Avoid release to the environment.

Disposal: P501: Dispose of contents and container in accordance with local regulations.

Contains: N-PHENYL-1-NAPHTHYLAMINE, 2-PROPANOL, 1-(TERT-DODECYLTHIO)-, BORATE ESTER May produce an allergic reaction.

Other hazard information:

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No additional hazards.

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3

COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
N-PHENYL-1-NAPHTHYLAMINE	90-30-2	0.1 - < 1%	H302, H317, H373, H400(M
			factor 1), H410(M factor
			1)
2-PROPANOL, 1-(TERT-DODECYLTHIO)-	67124-09-8	0.1 - < 1%	H317, H400(M factor 1),
			H410(M factor 1)
BIS(2-HYDROXYETHYL) TALLOW AMINE	61791-44-4	0.025 - < 0.1%	H290, H302, H314(1C),
			H400(M factor 10), H410(M
			factor 1)



Revision Date: 06 Aug 2021

Page 3 of 12

BORATE ESTER	CONFIDENTIAL	0.1 - < 1%	H317
CATALYTIC DEWAXED LIGHT PARAFFINIC OIL (PETROLEUM)	64742-71-8	20 - < 30%	H304
KEROSENE	8008-20-6	1 - < 2.5%	H226, H304, H336, H315, H401, H411
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	10 - < 20%	H304

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4

FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5

FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon,



Revision Date: 06 Aug 2021

Page 4 of 12

Smoke, Fume, Sulphur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >175 C (347 F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6

ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS



Revision Date: 06 Aug 2021

Page 5 of 12

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard		Note	Source	Year
CATALYTIC DEWAXED LIGHT	Mist.	STEL	10 mg/m3		Hong Kong	2002
PARAFFINIC OIL (PETROLEUM)					OELs	
CATALYTIC DEWAXED LIGHT	Mist.	TWA	5 mg/m3		Hong Kong	2002
PARAFFINIC OIL (PETROLEUM)					OELs	
CATALYTIC DEWAXED LIGHT	Inhalabl	TWA	5 mg/m3		ACGIH	2020
PARAFFINIC OIL (PETROLEUM)	е					
	fraction					
KEROSENE	Stable	TWA	5 mg/m3	Skin	ExxonMobil	2020
	Aerosol.					
KEROSENE	Vapour.	TWA	200 mg/m3	Skin	ExxonMobil	2020
KEROSENE [as total hydrocarbon	Non-	TWA	200 mg/m3	Skin	ACGIH	2020
vapor]	Aerosol					
SEVERELY HYDROTREATED HEAVY	Mist.	STEL	10 mg/m3		Hong Kong	2002
PARAFFINIC DISTILLATE					OELs	
SEVERELY HYDROTREATED HEAVY	Mist.	TWA	5 mg/m3		Hong Kong	2002



Revision Date: 06 Aug 2021

Page 6 of 12

PARAFFINIC DISTILLATE					OELs	
SEVERELY HYDROTREATED HEAVY	Inhalabl	TWA	5 mg/m3		ACGIH	2020
PARAFFINIC DISTILLATE	e					
	fraction					

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur the following is recommended: 5 mg/m3 - ACGIH TLV (inhalable fraction).

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation. Particulate

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use. Nitrile, Viton

Eye Protection: If contact is likely, safety glasses with side shields are recommended.



Revision Date: 06 Aug 2021

Page 7 of 12

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid

Colour: Red

Odour: Characteristic Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.812 - 0.892

Flash Point [Method]: >175 C (347 F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Flammability (Solid, Gas): N/A Autoignition Temperature: N/D

Boiling Point / Range: > 316 C (600 F) [Estimated]
Vapour Density (Air = 1): > 2 at 101 kPa [Estimated]

Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C [Estimated]

Evaporation Rate (n-butyl acetate = 1): N/D

pH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]

Solubility in Water: Negligible

Viscosity: 30 cSt (30 mm2/sec) at 40 C | 7.25 cSt (7.25 mm2/sec) at 100 C

Freezing Point: N/D Melting Point: N/A

Decomposition Temperature: N/D

Oxidizing Properties: See Hazards Identification Section.



Revision Date: 06 Aug 2021

Page 8 of 12

OTHER INFORMATION

Pour Point: -50 C (-58 F)

DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

<u>Hazard Class</u>	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.
material.	
Irritation: No end point data for	Negligible hazard at ambient/normal handling temperatures.
material.	
Ingestion	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.
material.	
Skin	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.
material.	
Skin Corrosion/Irritation: No end point	Negligible irritation to skin at ambient temperatures.
data for material.	Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end	May cause mild, short-lasting discomfort to eyes. Based on
point data for material.	assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point	Not expected to be a respiratory sensitizer.
data for material.	
Skin Sensitization: No end point data	Not expected to be a skin sensitizer. Based on assessment
for material.	of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-
	chemical properties of the material.



Revision Date: 06 Aug 2021

Page 9 of 12

Germ Cell Mutagenicity: No end point data for material.

Carcinogenicity: No end point data for material.

Not expected to be a germ cell mutagen. Based on assessment of the components.

Not expected to cause cancer. Based on assessment of the components.

Reproductive Toxicity: No end point data for material.

Not expected to be a reproductive toxicant. Based on assessment of the components.

Lactation: No end point data for Mot expected to cause harm to breast-fed children.

material.

Specific Target Organ Toxicity (STOT)

Single Exposure: No end point data for Not expected to cause organ damage from a single exposure.

Material.

Reposeted Exposure: No end point data.

Not expected to cause organ damage from a single exposure.

Repeated Exposure: No end point data for material.

Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY	
N-PHENYL-1-NAPHTHYLAMINE	Oral Lethality: LD 50 1625 mg/kg (Rat)	

OTHER INFORMATION

For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

Contains

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals. Kerosene: Carcinogenic in animal tests. Lifetime skin painting tests produced tumours, but the mechanism is due to repeated cycles of skin damage and restorative hyperplasia. This mechanism is considered unlikely in humans where such prolonged skin irritation would not be tolerated. Did not cause mutations in-vitro. Inhalation of vapours did not result in reproductive or developmental effects in laboratory animals. Inhalation of high concentrations in animals resulted in respiratory tract irritation, lung changes and some reduction in lung function. Non-sensitizing in animal tests. N-phenyl-1-naphthylamine (PAN): A single oral overexposure may result in clinical signs/symptoms of cyanosis, headache, shallow respiration, dizziness, confusion, low blood pressure, convulsions, coma, or jaundice. Hematuria may occur due to bladder and kidney irritation, and anemia may develop later. Repeated exposure in laboratory animals caused liver and kidney damage and depressed bone marrow activity. Undiluted PAN is a skin sensitiser. Human testing of lubricants containing 1.0% PAN resulted in no reactions indicative of sensitisation.

IARC Classification:

The following ingredients are cited on the lists below: None.



Revision Date: 06 Aug 2021

Page 10 of 12

-- REGULATORY LISTS SEARCHED--

1 = IARC 1 2 = IARC 2A 3 = IARC 2B

SECTION 12

ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Chronic	21 day(s)	Penaeus duorarum	NOELR 1 mg/1: data for similar
Toxicity			materials

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.



Revision Date: 06 Aug 2021

Page 11 of 12

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14

TRANSPORT INFORMATION

LAND (ADR): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15

REGULATORY INFORMATION

Material is hazardous according to UN GHS Revision 4 Criteria.

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories: AIIC, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SECTION 16

OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H226: Flammable liquid and vapour; Flammable Liquid, Cat 3

H290: May be corrosive to metals; Corrosive to Metals

H302: Harmful if swallowed: Acute Tox Oral, Cat 4

H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1

H314(1C): Causes severe skin burns and eye damage; Skin Corr/Irritation, Cat 1C

H315: Causes skin irritation; Skin Corr/Irritation, Cat 2

H317: May cause allergic skin reaction; Skin Sensitisation, Cat 1

H336: May cause drowsiness or dizziness; Target Organ Single, Narcotic

H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2



Revision Date: 06 Aug 2021

Page 12 of 12

H400: Very toxic to aquatic life; Acute Env Tox, Cat 1

H401: Toxic to aquatic life; Acute Env Tox, Cat 2

H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

BRENNTAG CHEMICALS (HK) PTE LTD: Section 01: Supplier Mailing Address information was modified.

Section 01: Company Mailing Address information was modified. Section 02: GHS Sensitizer Statement information was modified. Section 08: Exposure Limits Table information was modified.

Section 15: National Chemical Inventory Listing information was modified.

Section 16: HCode Key information was modified.

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