SAFETY DATA SHEET

Section 1. Identification

GHS product identifier : CITGO CITGARD® 1000 Full Synthetic Heavy Duty Engine Oil, SAE 5W-30

Synonyms : Heavy duty motor oil

Material uses : Engine oil

Code : 622676001

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Supplier's details : CITGO Petroleum Corporation
P.O. Box 4689
Houston, TX 77210
sdsvend@citgo.com

Emergency telephone number (with hours of operation) : Technical Contact: (800) 248-4684
Medical Emergency: (832) 486-4700
CHEMTREC Emergency: (800) 424-9300
(United States Only)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Keep out of reach of children.

Prevention : Do not get in eyes, on skin, or on clothing.

Response : Wash with plenty of soap and water or use a recognized skin cleanser.

Storage : Store in accordance with all local, regional, national and international regulations. Store in a dry place and a closed container. Empty containers may contain material residues which can ignite with explosive force. Misuse of empty containers can be dangerous if used 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, sparks, or heat. Keep container closed and drum bungs in place. All label warnings and precautions must be observed. Return empty drums 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 material.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Heavy duty motor oil

CAS number/other identifiers

CAS number : Not applicable.

Ingredient name	%	CAS number
Distillates (petroleum), hydrotreated heavy paraffinic	≥50 - ≤75	64742-54-7
1-Decene, tetramer, mixed with 1-decene trimer, hydrogenated	≤10	68649-12-7
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	≤10	163149-28-8
1-Dodecene polymer with 1-decene, hydrogenated	≤10	151006-60-9
Distillates (petroleum), solvent-dewaxed heavy paraffinic	≤5	64742-65-0
Distillates (petroleum), solvent-dewaxed light paraffinic	≤5	64742-56-9
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	≤3	9003-29-6
Alkaryl amine	Proprietary	-
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate	≤3	125643-61-0

* = Various ** = Mixture *** = Proprietary

Any concentration shown as a range is to protect confidentiality or is due to process variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Serious effects may be delayed following exposure. Exposure to decomposition products may cause a health hazard.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Section 4. First aid measures

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : Treat symptomatically and supportively.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
phosphorus oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Bulk Storage Conditions: Maintain all storage tanks in accordance with applicable regulations. Use necessary controls to monitor tank inventories. Inspect all storage tanks on a periodic basis. Test tanks and associated piping for tightness. Maintain the automatic leak detection devices to assure proper working condition.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Distillates (petroleum), hydrotreated heavy paraffinic	**ACGIH TLV (United States, 1/2021).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. **NIOSH REL (United States, 10/2020).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	**ACGIH TLV (United States).** Inhalable Fraction: 5 mg/m³ Form: Aerosol.
1-Dodecene polymer with 1-decene, hydrogenated	**ACGIH TLV (United States).** Inhalable Fraction: 5 mg/m³ Form: Aerosol.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	**ACGIH TLV (United States, 1/2021).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. **NIOSH REL (United States, 10/2020).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist
Distillates (petroleum), solvent-dewaxed light paraffinic	**ACGIH TLV (United States, 1/2021).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. **NIOSH REL (United States, 10/2020).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, vapor controls, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 8. Exposure controls/personal protection

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Avoid skin contact with liquid. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Leather boots are not protective for liquid contact.

Respiratory protection : Avoid inhalation of gases, vapors, mists or dusts. Use a properly fitted, air-purifying or supplied-air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : Amber to dark amber

Odor : Mild petroleum odor

pH : Not available.

Boiling point, initial boiling point, and boiling range : Not available.

Flash point : Open cup: 220°C (428°F) [Cleveland]

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure :

Ingredient name	Vapor Pressure at 20˚C			Vapor pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
cyclohexane	93.01	12.4				
vinyl acetate	84.76	11.3				
benzene	75.01	10				
Benzene	75.01	10				
toluene	23.17	3.1				
Ethylenediamine	10.5	1.4				
Butene, homopolymer (products derived from	5.1	0.68		13.05	1.7	

either/or But-1-ene/But-2-ene)						
ethanediol	0.09	0.012				
Distillates (petroleum), hydrotreated heavy paraffinic	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), solvent-dewaxed heavy paraffinic	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), solvent-dewaxed light paraffinic	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), solvent-refined light paraffinic	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), solvent-refined heavy paraffinic	<0.08	<0.011	ASTM D 5191			
Alkaryl amine	<0.01	<0.0013	EU A.4	0	0	EU A.4
1-Decene, tetramer, mixed with 1-decene trimer, hydrogenated	0	0	EU A.4			
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	0	0				
1-Dodecene polymer with 1-decene, hydrogenated	0	0				
fumaric acid	0 to 0	0 to 0	OECD 104			

Relative vapor density : Not available.

Relative density : 0.86

Density lbs/gal : Estimated 7.17 lbs/gal

Density gm/cm^3 : Not available.

Gravity, °API : Estimated 33 @ 60 F

Solubility : Insoluble in the following materials: cold water.

Auto-ignition temperature : Lowest known value: 215°C (419°F) (Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)).

Viscosity : Kinematic (40°C (104°F)): 70 mm^2/s (70 cSt)

Viscosity SUS : Estimated 324 SUS @104 F

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Section 10. Stability and reactivity

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), hydrotreated heavy paraffinic	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	LC50 Inhalation Dusts and mists	Rat - Male, Female	1.17 mg/l	4 hours
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-
1-Dodecene polymer with 1-decene, hydrogenated	LC50 Inhalation Dusts and mists	Rat - Male, Female	>5 mg/l	4 hours
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-
Distillates (petroleum), solvent-dewaxed heavy paraffinic	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), solvent-dewaxed light paraffinic	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : **Distillates (petroleum), hydrotreated heavy paraffinic**: Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects.
Distillates (petroleum), solvent-dewaxed heavy paraffinic: Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects.
Distillates (petroleum), solvent-dewaxed light paraffinic: Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate: In subchronic studies, certain alkyl phenols have been associated with liver effects (cellular hypertrophy) following oral administration to rats. These liver effects were characterized by necrosis and fibrosis at doses of 250 mg/kg/day or higher. Also, effects on prothrombin index were reported, however this effect is not seen in all studies. Chronic studies did not find carcinogenic effects in rats or mice.

Section 11. Toxicological information

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	Skin - Edema	Rabbit	0.7	4 hours 0.5ml	7 days
	Eyes - Redness of the conjunctivae	Rabbit	1	24 hours 0.5 ml	72 hours
1-Dodecene polymer with 1-decene, hydrogenated	Skin - Edema	Rabbit	0.7	4 hours 0.5ml	7 days
	Eyes - Redness of the conjunctivae	Rabbit	1	24 hours 0.5 ml	72 hours

Skin : **1-Dodecene polymer with 1-decene and 1-octene hydrogenated**: This product can cause mild skin irritation and inflammation.
1-Dodecene polymer with 1-decene, hydrogenated: This product can cause mild skin irritation and inflammation.

Eyes : **1-Dodecene polymer with 1-decene and 1-octene hydrogenated**: Practically non-irritating to eyes.
1-Dodecene polymer with 1-decene, hydrogenated: Practically non-irritating to eyes.

Respiratory : No additional information.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	skin	Guinea pig	Not sensitizing
1-Dodecene polymer with 1-decene, hydrogenated	skin	Guinea pig	Not sensitizing

Skin : **1-Dodecene polymer with 1-decene and 1-octene hydrogenated**: Non-sensitizer to skin.
1-Dodecene polymer with 1-decene, hydrogenated: Non-sensitizer to skin.

Respiratory : No additional information.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	EU	Experiment: In vitro Subject: Bacteria	Negative
	EU	Experiment: In vivo Subject: Mammalian-Animal	Negative
1-Dodecene polymer with 1-decene, hydrogenated	EU	Experiment: In vitro Subject: Bacteria	Negative
	EU	Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/Summary : **1-Dodecene polymer with 1-decene and 1-octene hydrogenated**: No mutagenic effect.
1-Dodecene polymer with 1-decene, hydrogenated: No mutagenic effect.

Carcinogenicity

Not available.

Conclusion/Summary : No additional information.

Reproductive toxicity

Section 11. Toxicological information

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	Negative	Negative	Negative	Rat - Male, Female	Oral: 1000 mg/kg	-
1-Dodecene polymer with 1-decene, hydrogenated	Negative	Negative	Negative	Rat - Male, Female	Oral: 1000 mg/kg	-

Conclusion/Summary : **1-Dodecene polymer with 1-decene and 1-octene hydrogenated**: No known significant effects or critical hazards.
1-Dodecene polymer with 1-decene, hydrogenated: No known significant effects or critical hazards.

Teratogenicity

Not available.

Conclusion/Summary : No additional information.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Name	Result
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	ASPIRATION HAZARD - Category 1
1-Dodecene polymer with 1-decene, hydrogenated	ASPIRATION HAZARD - Category 1
Distillates (petroleum), solvent-dewaxed light paraffinic	ASPIRATION HAZARD - Category 1
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Dermal.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Serious effects may be delayed following exposure. Exposure to decomposition products may cause a health hazard.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Section 11. Toxicological information

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
CITGO CITGARD® 1000 Full Synthetic Heavy Duty Engine Oil, SAE 5W-30	N/A	16838.7	N/A	N/A	N/A
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	N/A	2500	N/A	N/A	N/A
1-Dodecene polymer with 1-decene, hydrogenated	N/A	2500	N/A	N/A	N/A
Distillates (petroleum), solvent-dewaxed light paraffinic	N/A	2500	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	Acute EC50 1000 mg/l Fresh water	Crustaceans - Daphnia magna	48 hours
	Acute LC50 >1000 mg/l Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEL 125 mg/l Fresh water	Crustaceans - Daphnia magna	21 days
1-Dodecene polymer with 1-decene, hydrogenated	Acute EC50 1000 mg/l Fresh water	Crustaceans - Daphnia magna	48 hours
	Acute LC50 >1000 mg/l Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEL 125 mg/l Fresh water	Crustaceans - Daphnia magna	21 days
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	EC50 >1000 mg/l similar material	Daphnia	48 hours
	LC50 >1000 mg/l similar material	Fish	96 hours

Conclusion/Summary : **1-Dodecene polymer with 1-decene and 1-octene hydrogenated**: No known significant effects or critical hazards.
1-Dodecene polymer with 1-decene, hydrogenated: No known significant effects or critical hazards.

Persistence and degradability

Conclusion/Summary : **Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)**: This product is unlikely to biodegrade at a significant rate.

Section 12. Ecological information

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
1-Decene, tetramer, mixed with 1-decene trimer, hydrogenated	5	-	high
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	7.6 to 7.8	314 to 1882	high
Alkaryl amine	3.64 to 7.02	1730	high
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	9.2	260	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Oil: The product(s) represented by this SDS is (are) regulated as “oil” under 49 CFR Part 130. Shipments by rail or highway in packaging having a capacity of 3500 gallons or more or in a quantity greater 42,000 gallons are subject to these requirements. In addition, mixtures containing 10% or more of this product may be subject to these requirements.

Section 14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts; toluene; Nickel; lead powder; Cadmium (Non-pyrophoric); benzene; Benzene

Clean Water Act (CWA) 311: fumaric acid; toluene; Ethylenediamine; cyclohexane; vinyl acetate; benzene; Benzene

This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ (lbs)	SARA 302 TPQ (gallons)	SARA 304 RQ (lbs)	SARA 304 RQ (gallons)
ethylenediamine	<0.01	Yes.	10000	1337.1	5000	668.5
vinyl acetate	<0.0001	Yes.	1000	129	5000	644.8

SARA 304 RQ : 62180160.8 lbs / 28229793 kg [8671537.6 gal / 32825340.7 L]

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Name	%	Classification
1-Dodecene polymer with 1-decene and 1-octene hydrogenated	≤10	ASPIRATION HAZARD - Category 1
1-Dodecene polymer with 1-decene, hydrogenated	≤10	ASPIRATION HAZARD - Category 1
Distillates (petroleum), solvent-dewaxed light paraffinic	≤5	ASPIRATION HAZARD - Category 1
Butene, homopolymer (products derived from either/or But-1-ene/ But-2-ene)	≤3	SKIN IRRITATION - Category 2 ASPIRATION HAZARD - Category 1

State regulations

Massachusetts : None of the components are listed.

New York : The following components are listed: Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)

New Jersey : None of the components are listed.

Pennsylvania : The following components are listed: Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)

California Prop. 65 Clear and Reasonable Warnings (2018)

⚠ **WARNING**: This product can expose you to chemicals including Nickel, which is known to the State of California to cause cancer, and Ethylene Glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Section 15. Regulatory information

Ingredient name	%	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
ethanediol	<0.1	No.	Yes.	-	Yes.
toluene	<0.1	No.	Yes.	-	Yes.
Nickel	<0.0001	Yes.	No.	-	-
lead powder	<0.0001	Yes.	Yes.	Yes.	Yes.
Cadmium (Non-pyrophoric)	<0.0001	Yes.	Yes.	Yes.	Yes.
benzene	trace	Yes.	Yes.	Yes.	Yes.
Benzene	trace	Yes.	Yes.	-	-

International regulations

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

Inventory list

United States : All components are listed or exempted.

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Europe : Not determined.

Japan : **Japan inventory (CSCL)**: All components are listed or exempted.
Japan inventory (ISHL): Not determined.

Malaysia : Not determined

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : All components are listed or exempted.

Taiwan : Not determined.

Thailand : Not determined.

Turkey : Not determined.

Viet Nam : Not determined.

Section 16. Other information

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
Not classified.	

History

Date of printing : 10/10/2022

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Version : 4

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

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