

## Section 1. Identification

**CAS number** : Not applicable.  
**UN number** : Not regulated.  
**EC number** : Mixture.  
**GHS product identifier** : CARTER SH 460

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

#### Identified uses

Industrial gear oil

**Supplier's details** : TOTALENERGIES MARKETING VIETNAM COMPANY LIMITED  
Landlot 3, Go Dau Industrial Zone  
Long Thanh Dist., Dong Nai Prov., Vietnam  
Tel: +84 251 3543056  
Fax: +84 251 3543694  
ms.ap-sds@totalenergies.com  
  
TotalEnergies Marketing Asia-Pacific Middle East Pte. Ltd.  
182 Cecil Street  
#27-01 Frasers Tower  
Singapore 069547  
Tel: +65 6879 2200  
ms.ap-sds@totalenergies.com

**Emergency telephone number (with hours of operation)** :  
  
Vietnam: +84 28 4458 2388  
Asia-Pacific: +65 3158 1074

## Section 2. Hazard identification

**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**  
**Prevention** : Not applicable.  
**Response** : Not applicable.  
**Storage** : Not applicable.  
**Disposal** : Not applicable.

**Other hazards which do not result in classification** : None known.

**Additional information** : The product is made from synthetic base oils



## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture  
**Other means of identification** : Not available.

Ingredient name	CAS number	% (w/w)
Amines, C10-14-tert-alkyl	-	≤0.3
C16-18-(even numbered, saturated and unsaturated)-alkylamines	112-90-3	≤0.1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment 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.
- 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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. 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** : No known significant effects or critical hazards.
- 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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- 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 dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

**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** : carbon monoxide  
carbon dioxide  
Silicon Dioxide  
nitrogen oxides  
phosphorus oxides  
sulfur oxides  
Hydrogen sulfide  
Mercaptans

**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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None.

- 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, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Advisory OEL** : No known significant effects or critical hazards.

### 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 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 contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### Skin protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.  
Hydrocarbon-proof gloves  
Fluorinated rubber  
nitrile rubber  
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.



- 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** : 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.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

### Appearance

- Physical state** : Liquid. [limpid]
- Color** : Clear.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Technically not possible to measure
- Pour point** : -42°C (-43.6°F)
- Boiling point** : >316°C (>600.8°F) [EN ISO 3405]
- Flash point** : Open cup: 231°C (447.8°F) [Cleveland Open Cup (COC)]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : Lower: 0.9%  
Upper: 7%
- Vapor pressure** : <0.013 kPa (<0.1 mm Hg) [room temperature] [ASTM D 5191]  
Not applicable. [50°C]
- Vapor density** : >2 [Air = 1]
- Relative density** : 0.854 [ISO 12185]
- Density** : 0.854 g/cm<sup>3</sup> [15°C] [ISO 12185]
- Solubility(ies)** :

Media	Result
water	Not soluble

- Miscible with water** : No.
- Solubility in water** : 0.885 g/l
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : >231°C (>447.8°F) [ASTM E 659]
- Decomposition temperature** : Not applicable.
- Viscosity** : Kinematic (40°C (104°F)): 446 mm<sup>2</sup>/s (446 cSt) [ISO 3104]
- Flow time (ISO 2431)** : Not available.
- Particle characteristics**
- Median particle size** : Not applicable.

**Section 10. Stability and reactivity**

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : Stable under recommended storage and handling conditions (see Section 7).
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.  
No smoking.
- Incompatible materials** : Strong oxidizing agents
- Hazardous decomposition products** : carbon monoxide  
carbon dioxide  
Silicon Dioxide  
nitrogen oxides  
phosphorus oxides  
sulfur oxides  
Hydrogen sulfide  
Mercaptans

**Section 11. Toxicological information****Information on toxicological effects****Acute toxicity**

Product/substance	Result	Species	Dose	Exposure	Test
Amines, C10-14-tert-alkyl	LC50 Inhalation Vapor	Rat	1.19 mg/l	4 hours	OECD 403
	LC50 Inhalation Vapor	Rat	157 to 231 ppm	4 hours	-
C16-18-(even numbered, saturated and unsaturated)-alkylamines	LD50 Dermal	Rabbit	251 mg/kg	-	OECD 402
	LD50 Oral	Rat	612 mg/kg	-	OECD 401
	LC50 Inhalation Dusts and mists	Rat - Male	>0.099 mg/l	1 hours	OECD
	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	-	OECD 402
	LD50 Oral	Rat - Male, Female	1689 mg/kg	-	OECD 401

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

**Irritation/Corrosion**

Product/substance	Result	Species	Score	Exposure	Test
C16-18-(even numbered, saturated and unsaturated)-alkylamines	Eyes - Severe irritant	Rabbit	-	-	OECD 405
	Skin - Visible necrosis	Rabbit	-	-	OECD 404

**Skin** : Based on available data, the classification criteria are not met.

**Eyes** : Based on available data, the classification criteria are not met.

**Respiratory** : Based on available data, the classification criteria are not met.

**Sensitization**



# CARTER SH 460

TotalEnergies

SDS # : 30562

Product/substance	Route of exposure	Species	Result
Amines, C10-14-tert-alkyl C16-18-(even numbered, saturated and unsaturated)-alkylamines	skin skin	Guinea pig Guinea pig	Sensitizing Not sensitizing

**Skin** : Based on available data, the classification criteria are not met. The supplier of one or more of the components contained within this formulation has indicated that he has data on the components and/or similar mixtures, which confirms that at the concentration used, classification is not required Contains Sensitizer. May produce an allergic reaction.

**Respiratory** : Based on available data, the classification criteria are not met.

### Mutagenicity

Product/substance	Test	Experiment	Result
C16-18-(even numbered, saturated and unsaturated)-alkylamines	OECD 471	Experiment: In vitro Subject: Bacteria	Negative

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Carcinogenicity

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Reproductive toxicity

Product/substance	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
C16-18-(even numbered, saturated and unsaturated)-alkylamines	Negative	Negative	Negative	Rat - Male, Female	Oral	-

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Teratogenicity

Product/substance	Result	Species	Dose	Exposure
C16-18-(even numbered, saturated and unsaturated)-alkylamines	Negative - Oral	Rabbit - Male, Female	>30 mg/kg NOAEL	-

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
C16-18-(even numbered, saturated and unsaturated)-alkylamines	Category 3	-	Respiratory tract irritation

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
C16-18-(even numbered, saturated and unsaturated)-alkylamines	Category 2	oral	gastrointestinal tract, immune system, liver

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Aspiration hazard



Name	Result
C16-18-(even numbered, saturated and unsaturated)-alkylamines	ASPIRATION HAZARD - Category 1

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

**Information on the likely routes of exposure** : Not available.

#### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**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.

#### Potential chronic health effects

Product/substance	Result	Species	Dose	Exposure
C16-18-(even numbered, saturated and unsaturated)-alkylamines	Sub-acute LOAEL Dermal	Rat - Male, Female	12.5 mg/kg	-
	Sub-acute NOAEL Oral	Rat - Male, Female	3.25 mg/kg	-

**General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

#### Numerical measures of toxicity

##### Acute toxicity estimates



Product/substance	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Amines, C10-14-tert-alkyl	612	251	N/A	1.19	N/A
C16-18-(even numbered, saturated and unsaturated)-alkylamines	1689	N/A	N/A	N/A	N/A

## Other information

:

Not available.

## Section 12. Ecological information

The supplier of one of the components contained within this formulation has indicated that they have data, which confirms that at the concentration used, no aquatic environmental hazard classification is required

Toxicity

Product/substance	Result	Species	Exposure	Test
Amines, C10-14-tert-alkyl	Acute EC50 0.44 mg/l	Algae - Selenastrum capricornutum	72 hours	OECD 201
	Fresh water			
	Acute EC50 0.24 mg/l	Daphnia - Daphnia magna	48 hours	-
	Acute EC50 63.5 mg/l	Micro-organism	30 minutes	-
	Acute LC50 1.3 mg/l	Fish	96 hours	-
C16-18-(even numbered, saturated and unsaturated)-alkylamines	Acute NOEC 0.05 mg/l	Algae - Selenastrum capricornutum	72 hours	OECD 201
	Fresh water			
	Chronic NOEC 0.078 mg/l	Fish - Oncorhynchus mykiss	96 days	OECD 210
	Acute EL50 0.04 mg/l	Algae - Selenastrum capricornutum	72 hours	-
	Acute EL50 0.011 mg/l	Daphnia - Daphnia magna	48 hours	-
	Acute EL50 222.5 mg/l	Micro-organism	3 hours	-
	Acute LL50 0.06 mg/l	Fish - Pimephales promelas	96 hours	-
	Chronic NOEL 0.013 mg/l	Daphnia - Daphnia magna	21 days	-

Persistence and degradability

Product/substance	Test	Result	Dose	Inoculum
C16-18-(even numbered, saturated and unsaturated)-alkylamines	OECD 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	66 % - Readily - 20 days	-	-

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Amines, C10-14-tert-alkyl	-	-	Not readily
C16-18-(even numbered, saturated and unsaturated)-alkylamines	-	-	Readily

Bioaccumulative potential



Product/substance	LogK <sub>ow</sub>	BCF	Potential
Amines, C10-14-tert-alkyl	2.9	-	low

**Mobility in soil**

- Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.
- Mobility in soil** : Given its physical and chemical characteristics, the product generally shows low soil mobility. The product is insoluble and floats on water. Loss by evaporation is limited.

**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

	UN	IMDG	ICAO/IATA
<b>UN/ID No</b>	Not regulated.	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	-	-	-
<b>Transport hazard class(es)</b>	-	-	-
<b>Packing group</b>	-	-	-
<b>Environmental hazards</b>	No.	No.	No.

**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

Toxic classification (TCVN : 4 3164-79)

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia inventory (AIC)</b>	: All components are listed or exempted.
<b>Canada inventory (DSL/NDSL)</b>	: All components are listed or exempted.
<b>China inventory (IECSC)</b>	: All components are listed or exempted.
<b>Europe inventory (EC)</b>	: All components are listed or exempted.
<b>Japan inventory</b>	: <b>Japan inventory (CSCL)</b> : All components are listed or exempted. <b>Japan inventory (ISHL)</b> : Not determined.
<b>New Zealand Inventory of Chemicals (NZIoC)</b>	: All components are listed or exempted.
<b>Philippines inventory (PICCS)</b>	: All components are listed or exempted.
<b>Korea inventory (KECI)</b>	: All components are listed or exempted.
<b>Taiwan Chemical Substances Inventory (TCSI)</b>	: All components are listed or exempted.
<b>Thailand inventory</b>	: Not determined.
<b>Turkey inventory</b>	: Not determined.
<b>United States inventory (TSCA 8b)</b>	: All components are listed or exempted.
<b>Vietnam inventory</b>	: Not determined.

The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

## Section 16. Other information

### Ratings of danger according to

#### NFPA



#### HMIS

Health	/	1
Flammability		1
Physical hazards		0

### History



**Date of revision** : 2023/04/10  
**previous revision date** : No previous validation  
**Version** : 1

**Key to abbreviations** : ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 HMIS = Hazardous Material Information System (U.S.A.)  
 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)  
 N/A = Not available  
 NFPA = National Fire Protection Association (U.S.A.)  
 SGG = Segregation Group  
 UN = United Nations

**Procedure used to derive the classification**

Classification	Justification
Not classified.	

**References** : Not available.

✔ Indicates information that has changed from previously issued version.

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.  
 Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.