



Synthetic lubricant for enclosed gears (polyglycol).

APPLICATIONS

Enclosed gears

- Lubrication of gears operating under the most severe conditions (high loads, shocks, extreme temperatures and corrosive atmospheres).
- Lubrication of worm gears.

SPECIFICATIONS

International specifications

- DIN 51517 Part 3 ⇒ group CLP
- NF-ISO 6743-6 category CKS/CKT
- DAVID BROWN, CMD

Manufacturers

ADVANTAGES

- Very high and shear stable viscosity index.
- Low coefficient of friction: greater protection for non-ferrous parts, such as the bronze ring gear in worm gears systems, offering an energy saving of between 5 and 10% compared with a mineral oil.
- Excellent thermal stability: extended oil lifetime.
- Very good foaming behaviour.
- Excellent extreme pressure and anti-wear properties.
- Very high level corrosion protection (tested with sea and acidic water).

HANDLING OPERATIONS - HEALTH - SAFETY

- POLYGLYCOL (or PAG) based lubricants, such as **CARTER SY**, are incompatible with most mineral and synthetic oils (PAO).
- Compatibility with the gearboxes components (seals, paints) must be checked.
- For Health and safety issues, please consult our MSDS.

CARACTERISTIQUES	METHODS	UNITS	CARTER SY				
			150	220	320	460	680
Density at 15°C	ISO 3675	kg/m ³	1004	1004	1003	1003	1002
Viscosity at 40°C	ISO 3104	mm ² /s	150	220	320	460	640
Viscosity at 100°C	ISO 3104	mm ² /s	23	34	50	71	95
Viscosity index	ISO 2909	-	185	202	220	230	240
Flash point (open cup)	ISO 2592	°C	230	230	230	230	230
Pour Point	ISO 3016	°C	-33	- 30	- 30	- 27	- 27

Above characteristics are typical values given as an information.

Safety Data Sheet



Section 1 - Identification of The Material and Supplier

Product Name: Carter SY 220
Product Code: 00Y
Product Use: Lubricant for gears.
Supplier: Total Oil Australia Pty Ltd (ABN 15 149 501 922)
Suite 2, 415 Riversdale Road, Hawthorn East
Victoria 3123
AUSTRALIA
Phone: +61 (03)9861 8600
Fax: +61 (03) 9882 0447

EMERGENCY TELEPHONE NUMBER: 1800 033 111 (Australia), 0800 734 607 (New Zealand)

Chemical nature: Product with a synthetic oil base.

Creation Date: July, 2011

This version issued: June, 2012 and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Not classified as hazardous according to the criteria of SWA.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: Not Hazardous - No criteria found.

Safety Phrases: S23, S25. Do not breathe mists. Avoid contact with eyes.

SUSMP Classification: None allocated.

ADG Classification: None allocated. Not a Dangerous Good under the ADG Code.

UN Number: None allocated

Emergency Overview

Physical Description & Colour: Amber coloured liquid.

Odour: Characteristic odour.

Major Health Hazards: no significant risk factors have been found for this product.

Potential Health Effects

May cause allergic reactions.

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation. Inhalation of high concentration of aerosols may cause mild irritation of the throat.

Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. In addition product is unlikely to cause any discomfort in normal use.

Long Term Exposure: oil blisters may develop following prolonged and repeated exposure through contact with stained clothing.

Eye Contact:

Short Term Exposure: This product may be mildly irritating to eyes, but is unlikely to cause anything more than mild discomfort which should disappear once product is removed.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m ³)	STEL (mg/m ³)
Oil, synthetic		>90	5 (mist)	not set
Benzenepropanoic acid, 3,5-bis (1,1-dimethyl-ethyl)-4-hydroxy-C ₇ -C ₉ branched alkyl ester	125643-61-0	<1.5	not set	not set
Alkylamine phosphate	80939-62-4	<0.3	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

Inhalation: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact: Gently blot away excess liquid. Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

Eye Contact: Quickly and gently blot material from eyes. No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

Ingestion: If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. This product is classified as a C2 combustible product. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product are likely to be irritating if inhaled.

Extinguishing Media: Suitable extinguishing media are carbon dioxide, dry chemical, foam, water fog.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.

Flash point: >210°C, ASTM D 92

Upper Flammability Limit: No data.

Lower Flammability Limit: No data.

Autoignition temperature: >250°C (ASTM E 659) This temperature may be significantly lower under particular conditions (slow oxidation on finely divided materials).

Flammability Class: C2

Section 6 - Accidental Release Measures

Accidental release: Minor spills do not normally need any special cleanup measures. In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include nitrile, neoprene. Eye/face protective equipment should comprise as a

minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Can be slippery on floors, especially when wet. Recycle containers wherever possible after careful cleaning. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Store packages of this product in a cool place. Make sure that containers of this product are kept tightly closed. Keep containers dry and away from water. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m³)	STEL (mg/m³)
Oil, mineral	5 (mist)	not set

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Eye protection is not normally necessary when this product is being used. However, if in doubt, wear suitable protective glasses or goggles.

Skin Protection: The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when skin contact is likely.

Protective Material Types: We suggest that protective clothing be made from the following materials: nitrile, neoprene.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Amber coloured liquid.
Odour:	Characteristic odour.
Boiling Point:	Not available.
Freezing/Melting Point:	No data. Liquid at normal temperatures.
Volatiles:	Nil at 100°C.
Vapour Pressure:	Nil at normal ambient temperatures.
Vapour Density:	No data.
Specific Gravity:	1.004 at 15°C
Water Solubility:	Negligible at 20°C.
pH:	No data.
Volatility:	Nil at normal ambient temperatures.
Odour Threshold:	No data.

Evaporation Rate: No data.
Coeff Oil/water Distribution: Log P_{ow} >6 at 20°C.
Viscosity: Kinematic viscosity at 40°C: about 220 mm²/s
Autoignition temp: >250°C (ASTM E 659)

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Containers should be kept dry.

Incompatibilities: strong oxidising agents.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide, various hydrocarbons, aldehydes and smoke. Water is also formed. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Local Effects:

Target Organs: There is no data to hand indicating any particular target organs.

CHRONIC TOXICITY OR LONG-TERM TOXICITY :

Skin contact: Characteristic skin affections (oil blisters) may develop following prolonged and repeated exposure through contact with stained clothing.

Sensitization: To our knowledge, the product does not cause aggravated sensitivity.

Classification of Hazardous Ingredients

Ingredient

Risk Phrases

No ingredient mentioned in the HSIS Database is present in this product at hazardous concentrations.

Section 12 - Ecological Information

This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Comments about ecotoxicity: Experimental data on the finished product are not available.

It is considered to present little danger for aquatic life. No information available for used product

Mobility

Air: There is a slow loss by evaporation.

Soil: Given its physical and chemical characteristics, the product generally shows little mobility in the ground.

Water: The product is insoluble; it spreads on the surface of the water

Persistence and degradability: No experimental information about the finished product. However the product is intrinsically biodegradable (OECD 302).

Section 13 - Disposal Considerations

Disposal: This product may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. If neither of these options is suitable, consider controlled incineration, or landfill.

Section 14 - Transport Information

ADG Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

Section 16 - Other Information

This MSDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)

AICS Australian Inventory of Chemical Substances

Issued by: Total Oil Australia Pty Ltd

Phone: +61 (03)9861 8600

Poisons Information Centre: 13 11 26 from anywhere in Australia, (0800 764 766 in New Zealand)

SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the SWA document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]

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