



1. Chemical product and company identification

Product name	Brayco 599
MSDS #	451699
Historic MSDS #:	0000001446; 27002-AW
Code	451699-US10
Product use	Corrosion preventative. Lubrication of gas turbines (jet engines) - to be used in accordance with engine manufacturers' guidelines.
Manufacturer	Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563
Supplier	Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563 Product Information: 1-800-621-2661
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)

2. Composition/information on ingredients

Ingredient name	CAS #	%
Base oil - highly refined	64742-54-7	5 - 10
Hydroxyalkyl carboxylic ester	68411-58-5	10 - 15

3. Hazards identification

Physical state	Liquid.
Color	Amber. [Dark]
Emergency overview	<p>WARNING!</p> <p>CAUSES EYE IRRITATION. CAUSES SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.</p> <p>Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Use with adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Keep container closed.</p>
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.
Potential health effects	
Eyes	Causes eye irritation.
Skin	Causes skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.
Medical conditions aggravated by over-exposure	None identified.

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4. First aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops.
Skin contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

5. Fire-fighting measures

Flammability of the product	May be combustible at high temperature.
Flash point	226 °C (Open cup)
Products of combustion	These products are carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide), oxides of phosphorus and oxides of nitrogen.
Unusual fire/explosion hazards	This material is not explosive as defined by established regulatory criteria.
Fire-fighting media and instructions	In case of fire, use water fog, foam, dry chemicals, or carbon dioxide. Do not use water jet.
Protective clothing (fire)	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").
Environmental precautions and clean-up methods	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways. See Section 13 for Waste Disposal Information.
Personal protection in case of a large spill	Chemical splash goggles. Chemical resistant protective suit. Boots. Chemical resistant gloves. Vapor respirator or a self-contained breathing apparatus. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator.

7. Handling and storage

Handling	Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Use only with adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name

Base oil - highly refined

Occupational exposure limits

ACGIH (United States).

TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral

STEL: 10 mg/m³ 15 minute(s). Form: Oil mist, mineral

OSHA (United States).

TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral

Hydroxyalkyl carboxylic ester

None assigned.

Some states may enforce more stringent exposure limits.

Control Measures

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

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.

Personal protection

Eyes

Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body

Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory

Use only with adequate ventilation

Hands

Wear suitable gloves.



Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

Physical state

Liquid.

Odor

Mild.

Color

Amber. [Dark]

Heat of combustion

Not available.

Pour Point

-60 °C

Specific gravity

0.95 to 1.02

Density

980 kg/m³ (0.98 g/cm³) at 16°C

Solubility

Insoluble in water.

Viscosity

Kinematic: 40 to 48 mm²/s (40 to 48 cSt) at 37.778°C

10. Stability and reactivity

Stability and reactivity

The product is stable.

Conditions to avoid

Avoid all possible sources of ignition (spark or flame).

Incompatibility with various substances

Reactive with oxidizing agents.

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Hazardous decomposition products

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

Hazardous polymerization

Will not occur.

11. Toxicological information

Chronic toxicity

Carcinogenic effects

No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).

Mutagenic effects

No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.

Reproductive effects

No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as a reproductive toxin.

Teratogenic effects

No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

Other chronic toxicity data

USED ENGINE OILS

Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained.

This product and/or similar products have been evaluated for the potential to cause delayed neurotoxic effects in animals (hens). Groups of hens were administered the product orally at either a single, maximum limit dose of 5 gm/kg, or a repeated maximum limit dose of 1 gm/kg, 5 days per week for 13 weeks. No clinical signs or histopathological evidence of neurotoxicity were observed. Therefore, the use of this product under recommended industrial hygiene practices should not pose a neurotoxic hazard.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

13. Disposal considerations

Waste information

Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations.

Consult your local or regional authorities.

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

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15. Regulatory information

U.S. Federal regulations

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

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Brayco 599: Immediate (Acute) Health Hazard

SARA 313

Form R - Reporting requirements

This product does not contain any hazardous ingredients at or above regulated thresholds.

Supplier notification

This product does not contain any hazardous ingredients at or above regulated thresholds.

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: Cadmium: 10 lbs. (4.536 kg); Arsenic: 1 lbs. (0.4536 kg);

State regulations

Massachusetts Substances

Massachusetts RTK: None of the components are listed.

New Jersey Hazardous Substances

New Jersey Hazardous Substances: The following components are listed: TRICRESYLPHOSPHATE

Pennsylvania RTK Hazardous Substances

Pennsylvania RTK: None of the components are listed.

WARNING: This product contains a chemical known to the State of California to cause cancer. Arsenic

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. Cadmium

Inventories

Canada inventory: All components are listed or exempted.

Europe inventory: Not determined.

Australia inventory (AICS): Not determined.

China inventory (IECSC): All components are listed or exempted.

Japan inventory (ENCS): All components are listed or exempted.

Korea inventory (KECI): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

16. Other information

Label requirements

WARNING!

CAUSES EYE IRRITATION.
CAUSES SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

HMIS® Rating :

Health 1
Flammability 1
Physical Hazard 0
Personal protection B

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



History

Date of issue

08/03/2007.

Date of previous issue

No Previous Validation.

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Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.

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