SAFETY DATA SHEET

Section 1. Identification Product name Brayco 599 451699 SDS# Historic SDS #: 27002 451699-US03 Code Relevant identified uses of the substance or mixture and uses advised against Product use Rust preventive. For specific application advice see appropriate Technical Data Sheet or consult our company representative. Castrol Industrial North America, Inc. Manufacturer 150 W. Warrenville Road Naperville, IL 60563 **Supplier** Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563 Product Information: +1-877-641-1600 **EMERGENCY SPILL** 1 (800) 424-9300 CHEMTREC (USA) **INFORMATION:**

Section 2. Hazards identification

OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1 TOXIC TO REPRODUCTION (Fertility) - Category 2
	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
GHS label elements	
Hazard pictograms	
Signal word	Warning
Hazard statements	Øauses serious eye irritation. Causes skin irritation.
	May cause an allergic skin reaction.
	Suspected of damaging fertility.
	May cause damage to organs through prolonged or repeated exposure.
Precautionary statements	
Prevention	Øbtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Product name	Brayco 599		Product code	451699-US03	Page: 1/10
Version 4	Date of issue 01/16/2015.	Format	US	Language	ENGLISH
			(US)		(ENGLISH)

Section 2. Hazards identification

Response	Eet medical attention if you feel unwell. IF exposed or concerned: Get medical attention IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Ge medical attention.	
Storage	Store locked up.	
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.	
Hazards not otherwise classified	Defatting to the skin.	

Section 3. Composition/information on ingredients

Synthetic base stock. Proprietary performance additives.

Substance/mixture Mixture

Ingredient name	CAS number	%
₩ydroxyalkyl carboxylic ester	Confidential.	≥10 - <25
Propane-1,2-diol, propoxylated	25322-69-4	≥5 - <10
Base oil - highly refined	Varies	≥5 - <10
tris(methylphenyl)phosphate	1330-78-5	≥1 - <3
2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol	95-38-5	≥1 - <3
n-phenyl-1-naphthylamine	90-30-2	≥0.3 - <1

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

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	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.	
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.	
Inhalation	Case of inhalation of decomposition products in a fire, symptoms may be delayed. If inhaled, remove to fresh air. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention.	
Ingestion	To not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Get medical attention.	
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.	

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

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

Notes to physicianIn 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.
Treatment should in general be symptomatic and directed to relieving any effects.

Product name	Brayco 599		Product code	451699-US03	Page: 2/10
Version 4	Date of issue 01/16/2015.	Format	US	Language	ENGLISH
			(US)		(ENGLISH)

Section 4. First aid measures

Specific treatments

No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media	
Suitable extinguishing media	In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.
Unsuitable extinguishing media	Do not use water jet.
Specific hazards arising from the chemical	Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	Combustion products may include the following: carbon dioxide carbon monoxide nitrogen oxides phosphorus 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 positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

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. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Contact emergency personnel.
For emergency responders	Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. 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). Water polluting material. May be harmful to the environment if released in large quantities.
Methods and materials for con	tainment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Absorb with an inert 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. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. 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. Contaminated absorbent material may pose the same hazard as the spilled product. Dispose of via a licensed waste disposal contractor.

Product name	Brayco 599		Product code	451699-US03	Page: 3/10
Version 4	Date of issue 01/16/2015.	Format	US	Language	ENGLISH
			(US)		(ENGLISH)

Section 7. Handling and storage

Precautions for safe handling	
Protective measures	Fut on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Avoid contact of spilled material and runoff with soil and surface waterways. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Do not breathe vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid exposure during pregnancy.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. 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. Store locked up. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Base oil - highly refined	ACGIH TLV (United States). TWA: 5 mg/m ³ 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction OSHA PEL (United States). TWA: 5 mg/m ³ 8 hours. Issued/Revised: 6/1993

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Appropriate engineering controls	All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
	concentrations below their respective occupational exposure limits. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.
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.

Individual protection measures

Product name	Brayco 599		Product code	451699-US03	Page: 4/10
Version 4	Date of issue 01/16/2015.	Format	US	Language	ENGLISH
			(US)		(ENGLISH)

Section 8. Exposure controls/personal protection

•	• •
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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety glasses with side shields.
Skin protection	
Hand protection	Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.
	Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.
Body protection	Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. 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	In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Color	Dark Amber.
Odor	Mild.
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Open cup: 218°C (424.4°F) [Cleveland.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	<1000 kg/m³ (<1 g/cm³) at 15.6°C
Solubility	insoluble in water.
Partition coefficient: n- octanol/water	Not available.

Product name	Brayco 599		Product code	451699-US03	Page: 5/10
Version 4	Date of issue 01/16/2015.	Format	US	Language	ENGLISH
			(US)		(ENGLISH)

Section 9. Physical and chemical properties

Auto-ignition temperature
Decomposition temperature
Viscosity

Not available. Not available. Kinematic: 44 mm²/s (44 cSt) at 100°C

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	No specific data.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
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

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
p-phenyl-1-naphthylamine	Category 2	Oral	blood system
Specific target organ toxicity (repeated exposure)			
Name	Category	Route of exposure	Target organs
2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol	Category 2	Oral	digestive system and thymus

Information on the likely routes of exposure	Routes of entry anticipated: Dermal, Inhalation.
Potential acute health effects	
Eye contact	Causes serious eye irritation.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	Adverse symptoms may include the following: pain or irritation
	watering redness

Product name	Brayco 599		Product code	451699-US03	Page: 6/10
Version 4	Date of issue 01/16/2015.	Format	US	Language	ENGLISH
			(US)		(ENGLISH)

Section 11. Toxicological information

Skin contact	Adverse symptoms may include the following:
	irritation
	redness
	dryness
	cracking
	reduced fetal weight
	increase in fetal deaths
	skeletal malformations
Inhalation	May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.
Ingestion	Adverse symptoms may include the following:
	reduced fetal weight
	increase in fetal deaths
	skeletal malformations

<u>Delayed and immediate effects and also chronic effects from short and long term exposure</u>					
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 effect	t <u>s</u>				
General	May cause damage to organs through prolonged or repeated exposure.				
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	Suspected of damaging fertility.				

and all a share the set of the set

Numerical measures of toxicity

Acute	toxicity	<u>estimates</u>

Route	ATE value
Øral	7142.9 mg/kg

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Persistence and degradability

Not expected to be rapidly degradable.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (Koc)

Not available.

Product name	Brayco 599		Product code	451699-US03	Page: 7/10
Version 4	Date of issue 01/16/2015.	Format	US	Language	ENGLISH
			(US)		(ENGLISH)

Section 12. Ecological information

Mobility

Non-volatile. Liquid. insoluble in water.

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. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. 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	TDG Classification	IMDG	ΙΑΤΑ
UN number	Not regulated.	Not regulated.	UN3082	UN3082
UN proper shipping name	-	-	Environmentally hazardous substance, liquid, n.o.s. (2- (2-heptadec- 8-enyl- 2-imidazolin- 1-yl)ethanol)	Environmentally hazardous substance, liquid, n.o.s. (2- (2-heptadec- 8-enyl- 2-imidazolin- 1-yl)ethanol)
Transport hazard class(es)	-	-	9 ••••••••••••••••••••••••••••••••••••	9 • • • • •
Packing group	-	-	Ш	III
Environmental hazards	No.	No.	Yes.	Yes.
Additional information	-	-	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Emergency</u> <u>schedules</u> (<u>EmS)</u> F-A, S-F	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Special precautions for user Not available.

Product name	Brayco 599		Product code	451699-US03	Page: 8/10
Version 4	Date of issue 01/16/2015.	Format	US	Language	ENGLISH
			(US)		(ENGLISH)

Section 14. Transport information

Transport in bulk according Not available. to Annex II of MARPOL

73/78 and the IBC Code Section 15. Regulatory information **U.S. Federal regulations United States inventory** All components are listed or exempted. (TSCA 8b) SARA 302/304 **Composition/information on ingredients** No products were found.

SARA 311/312

Classification	Immediate (acute) health hazard Delayed (chronic) health hazard
<u>SARA 313</u>	
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.
State regulations	
Massachusetts	None of the components are listed.
New Jersey	The following components are listed: TRICRESYL PHOSPHATE; PHOSPHORIC ACID, TRIS(METHYLPHENYL) ESTER
Pennsylvania	None of the components are listed.
California Prop. 65	WARNING: This product contains a chemical known to the State of California to cause cancer. Aniline
Other regulations	
Australia inventory (AICS)	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
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.
Taiwan inventory (CSNN)	MI components are listed or exempted.
REACH Status	The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		
Physical hazards		0
Personal protection		

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Product name	Brayco 599		Product code	451699-US03	Page: 9/10
Version 4	Date of issue 01/16/2015.	Format	US	Language	ENGLISH
			(US)		(ENGLISH)

Section 16. Other information

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



<u>History</u>	
Date of issue/Date of revision	01/16/2015.
Date of previous issue	11/10/2014.
Key to abbreviations	ACGIH = American Conference of Industrial Hygienists ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor CAS Number = Chemical Abstracts Service Registry Number GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Internediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) OEL = Occupational Exposure Limit SDS = Safety Data Sheet STEL = Short term exposure limit TWA = Time weighted average UN = United Nations UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

Indicates information that has changed from previously issued version.

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 BP Group.

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. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Product name	Brayco 599		Product code	451699-US03	Page: 10/10
Version 4	Date of issue 01/16/2015.	Format	US	Language	ENGLISH
			(US)		(ENGLISH)