SAFETY DATA SHEET

286C Hi-Temp Grease with Copper

Section 1. Identification

Product name : 286C Hi-Temp Grease with Copper

Other means of identification : Not available.

Product type : Liquid.

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

Extreme pressure high temperature lubricating grease.

Supplier's details :
Premium Oil NZ Ltd
P O Box 7347
Taradale
Napier
New Zealand
Ph. 0800 55 44 22

Manufacturer's details :
Schaeffer Mfg. Company
102 Barton Street
Saint Louis, Missouri 63104
Tel: 314-865-4100
Fax: 314-865-4107
Toll Free: 1-800-325-9962
E-Mail: safety@schaefferoil.com
Web: http://www.schaefferoil.com

Emergency telephone number (with hours of operation) : National Poisons Centre: 0800 764 766

e-mail address of person responsible for this SDS : safety@schaefferoil.com

Section 2. Hazards identification

HSNO Classification :
6.1 - ACUTE TOXICITY (oral) - Category C
6.1 - ACUTE TOXICITY (inhalation) - Category D
6.3 - SKIN IRRITATION - Category B
6.4 - EYE IRRITATION - Category A (Irritant)
6.5 - SENSITIZATION - Category B (Skin)
6.6 - MUTAGENICITY - Category A
6.8 - REPRODUCTIVE AND DEVELOPMENTAL TOXICITY (Fertility) - Category B
6.8 - REPRODUCTIVE AND DEVELOPMENTAL TOXICITY (Unborn child) - Category B
6.9 - SPECIFIC TARGET ORGAN TOXICITY (SINGLE OR REPEATED EXPOSURE) - Category B
9.1 - AQUATIC ECOTOXICITY - Category A
9.3 - TERRESTRIAL VERTEBRATE ECOTOXICITY - Category B

This material is classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 and has been classified according to the Hazardous Substances (Classifications) Regulations 2001.

This material is classified as a dangerous good according to criteria in New Zealand Standard 5433:2007 Transport of Dangerous Goods on Land.

GHS label elements

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Toxic if swallowed.
Harmful if inhaled.
Causes mild skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause genetic defects.
Suspected of damaging fertility or the unborn child.
May cause damage to organs.
Very toxic to aquatic life.
Toxic to terrestrial vertebrates.

Precautionary statements

Prevention : Obtain 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. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapour. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response : Collect spillage. Immediately call a POISON CENTRE or doctor/physician. IF SWALLOWED: Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Wash hands after handling. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF exposed or concerned: Get medical advice/attention.

Storage : Not applicable.

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

Symbol :

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

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

EC number : Mixture.

Product code : Not available.

Ingredient name	%	CAS number
Silica, amorphous, fumed, cryst.-free	5 - 10	112945-52-5
Copper	1 - 5	7440-50-8
Molybdenum disulphide	1 - 5	1317-33-5
Natural graphite	1 - 5	7782-42-5
Dimethyl methylphosphonate	1 - 5	756-79-6

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

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation : Harmful if inhaled.

Ingestion : Toxic if swallowed. Irritating to mouth, throat and stomach.

Skin contact : Causes mild skin irritation. May cause an allergic skin reaction.

Eye contact : Causes serious eye irritation.

Over-exposure signs/symptoms

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations

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

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

Specific treatments : Not available.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 4. First-aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

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

Not suitable : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

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

Hazchem code : Not available.

Special precautions for fire-fighters : No special precautions are required.

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 : 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 spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilt 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 material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. 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. Approach the 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling : Put on appropriate personal protective equipment (see Section 8). 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. 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. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Silica, amorphous, fumed, cryst.-free	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** TWA: 6 mg/m³ 8 hours. Form: inhalable dust TWA: 2.4 mg/m³ 8 hours. Form: respirable dust
Copper	**NZ OSH (New Zealand, 2/2013).** WES-TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists WES-TWA: 0.2 mg/m³, (as Cu) 8 hours. Form: Fume
Molybdenum disulphide	**NZ OSH (New Zealand, 2/2013).** WES-TWA: 10 mg/m³, (measured as Mo) 8 hours.
Natural graphite	**ACGIH TLV (United States, 4/2014).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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

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.

Respiratory protection : If a risk assessment indicates that respiratory protection is required, use a properly fitted, air-purifying or supplied air respirator that complies with an approved standard. 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.

Hand protection : Use nitrile or oil resistant gloves.

Eye protection : Wear eye protection such as safety glasses, chemical goggles, or face shields if engineering controls or work practices are not adequate to prevent eye contact.

Section 8. Exposure controls/personal protection

Skin protection : Personal protective clothing such as gloves, aprons, boots and complete facial protection should be selected based on the task being performed and the risks involved. Users should determine acceptable performance characteristics of protective clothing. Consider physical requirements and other substances present when selecting protective clothing.

Section 9. Physical and chemical properties

Appearance

Physical state : Semi-solid. Grease.

Colour : Bronze-Black.

Odour : Petroleum.

Odour threshold : Not available.

pH : Not applicable.

Melting point : Not available.

Boiling point : Base Oils >204.4°C (>399.9°F)

Flash point : Open cup: Base Oils 232°C (449.6°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

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

Vapour pressure : Not available.

Vapour density : >1 [Air = 1]

Relative density : 1.01

Solubility : Negligible in water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Aerosol product

Type of aerosol : Not applicable.

Heat of combustion : Not available.

Ignition distance : Not applicable.

Enclosed space ignition - Time equivalent : Not applicable.

Enclosed space ignition - Deflagration density : Not applicable.

Flame height : Not applicable.

Flame duration : Not applicable.

Section 10. Stability and reactivity

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 : Avoid breathing mists and vapors.

Incompatible materials : Reactive or incompatible with the following materials: Strong acids, bases and oxidizers.

Section 10. Stability and reactivity

Hazardous decomposition products : Carbon monoxide, carbon dioxide; by products of incomplete combustion.

Section 11. Toxicological information

Information on the likely routes of exposure

Inhalation : Harmful if inhaled.

Ingestion : Toxic if swallowed. Irritating to mouth, throat and stomach.

Skin contact : Causes mild skin irritation. May cause an allergic skin reaction.

Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations

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

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

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Silica, amorphous, fumed, cryst.-free	LD50 Oral	Rat	3160 mg/kg	-
Natural graphite	LD50 Oral	Rat	>5 g/kg	-
Dimethyl methylphosphonate	LD50 Oral	Rat	8210 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Dimethyl methylphosphonate	Eyes - Mild irritant Skin - Mild irritant	Rabbit Rabbit	- -	0.1 Mililiters 24 hours 0.5 milligrams	- -

Sensitisation

There is no data available.

Potential chronic health effects

General : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin contact : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Eye contact : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : May cause genetic defects.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Chronic toxicity

There is no data available.

Carcinogenicity

Section 11. Toxicological information

There is no data available.

Specific target organ toxicity

Name	Category	Route of exposure	Target organs
Copper	Category B	Oral Inhalation	Not determined Not determined

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Inhalation (vapours)	158.1 mg/kg 15.86 mg/L

Section 12. Ecological information

Ecotoxicity : This material is very toxic to aquatic life.

Aquatic and terrestrial toxicity

Product/ingredient name	Result	Species	Exposure
Copper	Acute EC50 1100 µg/L Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/L Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/L Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/L Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/L Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/L Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/L Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/L Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/L Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/L Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/L Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks

Persistence/degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Dimethyl methylphosphonate	-0.61	-	low

Mobility in soil

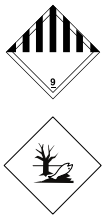
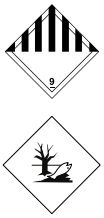
Soil/water partition coefficient (K_{OC}) : Not available.

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

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should 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 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 empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
New Zealand Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O. S. (Copper)	9	III		-
IATA Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O. S. (Copper)	9	III		The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
IMDG Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O. S. (Copper)	9	III		The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

PG* : Packing group

Section 15. Regulatory information

New Zealand Inventory of Chemicals (NZIoC) : All components are listed or exempted.

HSNO Approval Number : Not available.

HSNO Group Standard : Not available.

HSNO Classification : 6.1 - ACUTE TOXICITY (oral) - Category C
6.1 - ACUTE TOXICITY (inhalation) - Category D
6.3 - SKIN IRRITATION - Category B
6.4 - EYE IRRITATION - Category A (Irritant)
6.5 - SENSITIZATION - Category B (Skin)
6.6 - MUTAGENICITY - Category A
6.8 - REPRODUCTIVE AND DEVELOPMENTAL TOXICITY (Fertility) - Category B
6.8 - REPRODUCTIVE AND DEVELOPMENTAL TOXICITY (Unborn child) - Category B

Section 15. Regulatory information

6.9 - SPECIFIC TARGET ORGAN TOXICITY (SINGLE OR REPEATED EXPOSURE) - Category B
9.1 - AQUATIC ECOTOXICITY - Category A
9.3 - TERRESTRIAL VERTEBRATE ECOTOXICITY - Category B

Australia inventory (AICS) : All components are listed or exempted.

Safety, health and environmental regulations specific for the product : No known specific national and/or regional regulations applicable to this product (including its ingredients).

Section 16. Other information

History

Prepared by : KMK Regulatory Services Inc.

Date of issue : 05/15/2015

Version : 1

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 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail