

Calibration Oil 4113

Section 1. Identification

Product name	Calibration Oil 4113
Product code	452281-FR01
SDS no.	452281
Use of the substance/mixture	Calibration fluid. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Product type	Liquid.
Supplier	Castrol New Zealand Limited 73 Remuera Road Newmarket Auckland, New Zealand www.castrol.com/nz Technical Helpline 0800 10 40 60
Emergency telephone number	0800 243643 (0800 CHEMHELP) (NZ use only)
New Zealand National Poisons Centre	0800 764 766 National Poison Centre

Section 2. Hazards identification

HSNO Classification ASPIRATION HAZARD - Category 1

This material is classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

This material is not classified as DANGEROUS GOODS according to criteria in New Zealand Standard 5433:2012 Transport of Dangerous Goods on Land.

Routes of entry Dermal contact. Eye contact. Inhalation.

GHS label elements

Signal word Danger

Hazard statements May be fatal if swallowed and enters airways.

Precautionary statements

Prevention Not applicable.

Response IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

Storage Store locked up.

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 Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Hydrocarbon solvent. Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Ingredient name	% (w/w)	CAS number
Distillates (petroleum), hydrotreated light	≥30 - ≤60	64742-47-8
Distillates (Petroleum) hydrotreated light	≥10 - ≤30	64742-47-8
Distillates (petroleum), hydrotreated middle	≥10 - ≤30	64742-46-7
Distillates (petroleum), hydrotreated light naphthenic	≥10 - ≤30	64742-53-6
Distillates (petroleum), hydrotreated heavy paraffinic	≤3	64742-54-7
Distillates (petroleum), solvent-dewaxed heavy paraffinic	≤3	64742-65-0
2,6-ditert-butyl-p-cresol	<0.25	128-37-0

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

If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention immediately.

Skin contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

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 if symptoms occur.

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

Notes to physician

Treatment should in general be symptomatic and directed to relieving any effects. Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.

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.

Section 5. Firefighting measures

Extinguishing media

Suitable

In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Not suitable

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 combustion products

Combustion products may include the following:
carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)

Hazchem code

Not available.

Special precautions for fire-fighters

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Section 5. Firefighting measures

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Fire-fighters' protective clothing will only provide limited protection.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Entry into a confined space or poorly ventilated area contaminated with vapour, 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".

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapour, 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 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).

Methods and material for containment 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 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. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. Avoid prolonged or repeated contact with skin. During metal working, solid particles from workpieces or tools will contaminate the fluid and may cause abrasions of the skin. Where such abrasions result in a penetration of the skin, first aid treatment should be applied as soon as reasonably possible. The presence of certain metals in the workpiece or tool, such as chromium, cobalt and nickel, can contaminate the metalworking fluid and as a result may induce allergic skin reactions. Keep away from ignition sources such as heat/sparks/open flame. - No smoking. Concentrations of mist, fumes and vapours in enclosed spaces may result in the formation of explosive atmospheres. Excessive splashing, agitation or heating must be avoided.

Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 5 to 25°C (41 to 77°F). 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
<input checked="" type="checkbox"/> Distillates (petroleum), hydrotreated light	ACGIH TLV (United States). [Kerosene] Absorbed through skin. TWA: 200 mg/m ³ , (as total hydrocarbon vapor) 8 hours. Issued/Revised: 1/2003
Distillates (Petroleum) hydrotreated light	ACGIH TLV (United States). [Kerosene] Absorbed through skin. TWA: 200 mg/m ³ , (as total hydrocarbon vapor) 8 hours. Issued/Revised: 1/2003
Distillates (petroleum), hydrotreated middle	NZ HSWA 2015 - GRWM 2016 (New Zealand). [Oil mineral] WES-TWA: 5 mg/m ³ 8 hours. Issued/Revised: 6/2016 Form: Mist WES-STEL: 10 mg/m ³ 15 minutes. Issued/Revised: 9/2010 Form: Mist
Distillates (petroleum), hydrotreated light naphthenic	NZ HSWA 2015 - GRWM 2016 (New Zealand). [Oil mineral] WES-TWA: 5 mg/m ³ 8 hours. Issued/Revised: 6/2016 Form: Mist WES-STEL: 10 mg/m ³ 15 minutes. Issued/Revised: 9/2010 Form: Mist
Distillates (petroleum), hydrotreated heavy paraffinic	NZ HSWA 2015 - GRWM 2016 (New Zealand). [Oil mineral] WES-TWA: 5 mg/m ³ 8 hours. Issued/Revised: 6/2016 Form: Mist WES-STEL: 10 mg/m ³ 15 minutes. Issued/Revised: 9/2010 Form: Mist
Distillates (petroleum), solvent-dewaxed heavy paraffinic	NZ HSWA 2015 - GRWM 2016 (New Zealand). [Oil mineral] WES-TWA: 5 mg/m ³ 8 hours. Issued/Revised: 6/2016 Form: Mist WES-STEL: 10 mg/m ³ 15 minutes. Issued/Revised: 9/2010 Form: Mist
2,6-ditert-butyl-p-cresol	NZ HSWA 2015 - GRWM 2016 (New Zealand). Skin sensitiser. WES-TWA: 10 mg/m ³ 8 hours. Issued/Revised: 11/2020

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures

Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

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.

Provide exhaust ventilation or other engineering controls to keep the relevant

Section 8. Exposure controls/personal protection

airborne 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

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 protection

Safety glasses with side shields.

Hand protection

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.

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

Use with adequate ventilation.

In case of insufficient ventilation, wear suitable respiratory equipment.

Recommended: half-face mask - organic vapor filter (Type A).

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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state

Liquid.

Colour

Amber. [Light]

Odour

Not available.

pH

Not applicable.

Melting point/freezing point

Not available.

Boiling point, initial boiling point, and boiling range

Not available.

Drop Point

Not available.

Flash point

Closed cup: 84 to 183°C (183.2 to 361.4°F) [Pensky-Martens ASTM D 93]

Auto-ignition temperature

Ingredient name	°C	°F	Method
Distillates (petroleum), hydrotreated light	>220	>428	
Distillates (Petroleum) hydrotreated light	>220	>428	
Distillates (petroleum), hydrotreated middle	225	437	

Vapour pressure

Section 9. Physical and chemical properties

Ingredient name	Vapour Pressure at 20 °C			Vapour pressure at 50 °C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<input checked="" type="checkbox"/> Distillates (petroleum), hydrotreated light	0.23 to 0.45	0.031 to 0.06				
Distillates (Petroleum) hydrotreated light	0.23 to 0.45	0.031 to 0.06				
Distillates (petroleum), hydrotreated heavy paraffinic	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), solvent-dewaxed heavy paraffinic	<0.08	<0.011	ASTM D 5191			

Relative vapour density

Not available.

Density

<1000 kg/m³ (<1 g/cm³) at 15°C

Solubility(ies)

Media	Result
<input checked="" type="checkbox"/> water	Not soluble

Viscosity

Kinematic: 2.54 mm²/s (2.54 cSt) at 40°C

Particle characteristics

Median particle size

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.
Under normal conditions of storage and use, hazardous polymerisation will not occur.

Conditions to avoid

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

Incompatible materials

Reactive or incompatible with the following materials: oxidising materials.

Hazardous decomposition products

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

Section 11. Toxicological information

Information on likely routes of exposure

Inhalation

Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.

Ingestion

Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs. Ingestion of large quantities may cause nausea and diarrhoea.

Skin contact

Defatting to the skin. May cause skin dryness and irritation.

Eye contact

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation

Exposure to high concentrations can cause dizziness, lightheadedness, headache, nausea and blurred vision. Higher levels may cause unconsciousness. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.

Ingestion

Adverse symptoms may include the following:
nausea or vomiting

Skin contact

No specific data.

Eye contact

No specific data.

Potential chronic health effects

General

No known significant effects or critical hazards.

Inhalation

Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Section 11. Toxicological information

Ingestion	Ingestion of large quantities may cause nausea and diarrhoea.
Skin contact	Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Eye contact	No known significant effects or critical hazards.
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	No known significant effects or critical hazards.
Aspiration hazard	

Name

Distillates (petroleum), hydrotreated light
Distillates (Petroleum) hydrotreated light
Distillates (petroleum), hydrotreated middle
Distillates (petroleum), hydrotreated light naphthenic
Distillates (petroleum), hydrotreated heavy paraffinic
Distillates (petroleum), solvent-dewaxed heavy paraffinic

Section 12. Ecological information

Ecotoxicity No known significant effects or critical hazards.

Persistence and degradability

Expected to be biodegradable.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Product/ingredient name	LogP _{ow}	BCF	Potential
2,6-ditert-butyl-p-cresol	5.1	-	high

Mobility in soil

Mobility Spillages may penetrate the soil causing ground water contamination.

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

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimised 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

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Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
New Zealand Class	Not regulated.	-	-	-		-
ADG Class	Not regulated.	-	-	-		-
IATA Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-

PG* : Packing group

Section 15. Regulatory information

New Zealand Regulatory Information

HSNO Approval Number	HSR002602
HSNO Group Standard	<input checked="" type="checkbox"/> Lubricants (Combustible) Group Standard 2020
HSNO Classification	<input checked="" type="checkbox"/> ASPIRATION HAZARD - Category 1

Regulation according to other foreign laws

REACH Status	The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.
United States inventory (TSCA 8b)	<input checked="" type="checkbox"/> All components are active or exempted.
Australia inventory (AICC)	All components are listed or exempted.
Canada inventory status	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (CSCL)	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 Chemical Substances Inventory (TCSI)	All components are listed or exempted.

Section 16. Other information

History

Date of issue/Date of revision	29 August 2023
Date of previous issue	14 October 2020.
Version	3
Prepared by	Not available.
Key to abbreviations	Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

Notice to reader

Indicates information that has changed from previously issued version.

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

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Section 16. Other information

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.