

## 1. Identification of the substance/preparation and company/undertaking

<b>Product name</b>	<b>Moform FN 286</b>
<b>SDS no.</b>	464919
<b>Use of the substance/mixture</b>	Metalworking fluid - neat. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
<b>Supplier</b>	Castrol India Ltd Technopolis Knowledge Park Office PO Box 19411 Mahakali Caves Rd Chakala, Andheri (E) Mumbai 400093  Telephone: +91 (022) 66984111/66984112
<b>EMERGENCY TELEPHONE NUMBER</b>	Toll free: 000800 100 7479 (for use in India only - 24 hours) Carechem Singapore: +65 3158 1198 (24 hours)
<b>E-mail address</b>	MSDSadvice@bp.com

## 2. Hazards identification

This preparation is classified as dangerous according to Directive 1999/45/EC as amended and adapted.

<b>Human health hazards</b>	May cause harm to breastfed babies.
<b>Environmental hazards</b>	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>Additional hazards</b>	Defatting to the skin.

See sections 11 and 12 for more detailed information on health effects and symptoms and environmental hazards.

## 3. Composition/information on ingredients

Highly refined mineral oil and additives.

Chemical name	CAS no.	%	EINECS / ELINCS.	Classification
Gas oil - unspecified	64742-46-7	5 - 10	265-148-2	Not classified. [1] [2]
C14-17 chlorinated paraffin	61788-76-9 / 85535-85-9	5 - 10	263-004-3 / 287-477-0	R64, R66 N; R50/53 [1]
Pentene, 2,4,4-trimethyl-, sulphurised	68515-88-8	1 - 5	271-114-8	Xn; R20 [1]
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts	68457-79-4	0.1 - 1	270-608-0	Xi; R41, R38 N; R51/53 [1]

See Section 16 for the full text of the R-phrases declared above.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] PBT-substance

[4] vPvB-substance

Occupational exposure limits, if available, are listed in Section 8.

## 4. First-aid measures

<b>Eye contact</b>	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.
<b>Skin contact</b>	Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.
<b>Inhalation</b>	If inhaled, remove to fresh air. Get medical attention if symptoms appear.
<b>Ingestion</b>	Do 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 if symptoms occur.
<b>Notes to physician</b>	Treatment should in general be symptomatic and directed to relieving any effects.

## 5 . Fire-fighting measures

### Extinguishing media

#### Suitable

Use foam or all-purpose dry chemical to extinguish.

#### Not suitable

Do not use water jet.

### Hazardous decomposition products

Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
sulfur oxides  
halogenated compounds

### Unusual fire/explosion hazards

In a fire or if heated, a pressure increase will occur and the container may burst. Swarf fires - Neat metal working oils may fume, thermally decompose or ignite if they come into contact with red hot swarf. To minimise the generation of red hot swarf ensure that a sufficient flow of oil is correctly directed to the cutting edge of the tool to flood it throughout cutting operations. As an additional precaution swarf should be regularly cleared from the immediate area to prevent the risk of fire.

### Special fire-fighting procedures

Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. This material is very toxic to aquatic organisms. 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.

### Protection of 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## 6 . Accidental release measures

### Personal precautions - For non-emergency personnel

Contact 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 spilt material. Floors may be slippery; use care to avoid falling. Do not breathe vapour or mist. Ensure good ventilation. Put on appropriate personal protective equipment.

### Personal precautions - 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

Storage tanks must be positioned within a bunded area. 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.

### Large spill

Immediately contact emergency personnel. 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.

### 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.

### Reference to other sections

See Section 1 for emergency contact information.  
See Section 5 for firefighting measures.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 12 for environmental precautions.  
See Section 13 for additional waste treatment information.

## 7 . Handling and storage

### Handling - Protective measures

Put on appropriate personal protective equipment. Avoid exposure while nursing. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid contact of spilt material and runoff with soil and surface waterways. 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. Empty containers retain product residue and can be hazardous. 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. 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, as can bacteria, and as a result may induce allergic and other skin reactions, especially if personal hygiene is inadequate.

### Handling - 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.

### Storage

Keep away from heat and direct sunlight. 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. Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Use appropriate containment to avoid environmental contamination.

## 8 . Exposure controls/personal protection

### Ingredient name

Gas oil - unspecified

### Occupational exposure limits

#### ACGIH (United States).

TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Oil mist, mineral

### ACGIH TLVs

Base oil - unspecified

#### ACGIH (United States).

TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Mineral oil, mist

Gas oil - unspecified

#### ACGIH (United States).

TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Oil mist, mineral

For information and guidance, the ACGIH values are included. For further information on these please consult your supplier.

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

### Exposure controls

#### Occupational exposure controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits.

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.

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.

#### 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. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protective equipment

#### Respiratory protection

Respiratory protective equipment is not normally required where there is adequate natural or local exhaust ventilation to control exposure.

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.

#### 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.

#### Eye protection

Safety glasses with side shields.

#### Skin and body

Use of protective clothing is good industrial practice.

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.

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 (Pictograms)



## 9 . Physical and chemical properties

### General information

#### Appearance

#### Physical state

Liquid.

#### Colour

Amber. [Dark]

#### Odour

Sulphurous.

### Important health, safety and environmental information

#### Flash point

Open cup: >150°C (>302°F) [Cleveland.]

#### Vapour pressure

<0.01 kPa (<0.075 mm Hg) at 20°C

#### Viscosity

Kinematic: 45 to 50 mm<sup>2</sup>/s (45 to 50 cSt) at 40°C

#### Boiling point / range

>200°C (>392°F)

#### Density

<1000 kg/m<sup>3</sup> (<1 g/cm<sup>3</sup>) at 20°C

## 10 . Stability and reactivity

### Stability

The product is stable.

### Possibility of hazardous reactions

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

### Conditions to avoid

Avoid excessive heat.

### Materials to avoid

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.

## 11 . Toxicological information

### Acute toxicity

#### Effects and symptoms

##### Eyes

Potential risk of transient stinging or redness if accidental eye contact occurs.

##### Skin

May cause skin dryness and irritation.

##### Inhalation

Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.  
Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

##### Ingestion

Ingestion of large quantities may cause nausea and diarrhoea.

### Chronic toxicity

#### Chronic effects

Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

#### Developmental effects

May cause harm to breastfed babies.

## 12 . Ecological information

### Persistence/degradability

Not readily biodegradable.

### Mobility

Non-volatile. Liquid. insoluble in water.

### Environmental hazards

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 13 . Disposal considerations

### Disposal considerations / Waste information

The generation of waste should be avoided or minimised wherever possible. Waste product residues should not be disposed of via the 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.

#### Unused product

Waste code	Waste designation
2 01 06*	mineral-based machining oils containing halogens (except emulsions and solutions)





However, deviation from the intended use and/or the presence of any potential contaminants may require an alternative waste disposal code to be assigned by the end user.

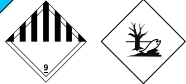
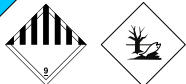
#### Packaging

Waste code	European waste catalogue (EWC)
5 01 10*	packaging containing residues of or contaminated by dangerous substances

## 14 . Transport information

### International transport regulations

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
ADR/RID Classification	UN3082	Environmentally hazardous substance, liquid, n.o.s. (C14-17 chlorinated paraffin)	9	III	 	<u>Hazard identification number</u> 90  <u>Tunnel code</u> (E)
ADN Classification	UN3082	Environmentally hazardous substance, liquid, n.o.s. (C14-17 chlorinated paraffin)	9	III	 	-

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
<b>IMDG Classification</b>	UN3082	Environmentally hazardous substance, liquid, n.o.s. (C14-17 chlorinated paraffin). Marine pollutant	9	III		-
<b>ICAO/IATA Classification</b>	UN3082	Environmentally hazardous substance, liquid, n.o.s. (C14-17 chlorinated paraffin)	9	III		-

PG\* : Packing group

ADR/RID Classification code:  M6


## 15. Regulatory information

Classification and labelling have been performed according to EU directives 1999/45/EC and 67/548/EEC as amended and adapted.

### Label requirements


#### Hazard symbol or symbols



 Dangerous for the environment

#### Indication of danger

#### Risk phrases


 R64- May cause harm to breastfed babies.  
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Safety phrases

 S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

### Other regulations

#### REACH Status

 For the REACH status of this product please consult your company contact, as identified in Section 1.

#### United States inventory (TSCA 8b)

At least one component is not listed.

#### Australia inventory (AICS)

At least one component is not listed.

#### Canada inventory

At least one component is not listed.


#### China inventory (IECSC)

At least one component is not listed.

#### Japan inventory (ENCS)

At least one component is not listed.

#### Korea inventory (KECI)


 At least one component is not listed.

#### Philippines inventory (PICCS)

At least one component is not listed.

## 16. Other information

### Full text of R-phrases referred to in sections 2 and 3

 R20- Harmful by inhalation.  
R41- Risk of serious damage to eyes.  
R38- Irritating to skin.  
R64- May cause harm to breastfed babies.  
R66- Repeated exposure may cause skin dryness or cracking.  
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### History

#### Date of issue/ Date of revision

23/08/2012.

#### Date of previous issue

03/06/2011.

#### Prepared by

Product Stewardship

### 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 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.