

## SAPPHIRE® 2, 1, 000

### Triple life multi-purpose bearing grease

#### Product Overview

ROCOL® SAPPHIRE 2, 1 & 000 heavy duty bearing greases are designed for the effective lubrication and protection of all types of ball, roller and plain bearings.

SAPPHIRE 2 is designed for normal use typically applied by greasegun or keg pump.

SAPPHIRE 1 is a slightly softer version for easier pumpability particularly when greasing is carried out via remote pipework.

SAPPHIRE 000 is a semi fluid version specifically developed for use in centralised lubrication systems, where very long pipe runs are inevitable and in grease filled gearboxes.

#### Features and Benefits

- Excellent temperature resistance from -30°C to +150°C.
- Revolutionary multi-complex soap technology provides outstanding EP performance superior to conventional soap thickened lubricants.
- SAPPHIRE 2, 1 & 000 are highly resistant to oxidation providing greatly extended lubrication intervals – typically 3 times longer than conventional lubricants.
- Excellent corrosion resistance to protect in humid, damp and even wet conditions.
- Highly tenacious lubricants, with outstanding film strength, ensure the lubricants remain in place even in severe operating conditions.
- SAPPHIRE 2, 1 & 000 maintain their integrity in extreme conditions and continue to protect over extended lubrication intervals, reducing equipment failure, downtime and lubricant usage.
- Blue in colour for high visibility in use.

#### Directions for Storage and Use

- SAPPHIRE 2 & SAPPHIRE 1 - Apply manually, by grease gun or by other methods suitable for the NLGI grade of grease being used.
- SAPPHIRE 000 – fill reservoir or gearbox to the level recommended by equipment manufacturer.
- All grades are compatible with other soap thickened greases. However, for best results the previous lubricant should be removed prior to application.
- The storage temperature should be controlled between +1°C and +40°C.
- Shelf life is 3 years from date of manufacture.

#### Typical Applications

SAPPHIRE 2, 1 & 000 are designed for medium to heavy duty ball, roller and plain bearings. They are ideal for use in slower moving bearings operating under extreme conditions such as shock loads and wet environments found in all types of industrial applications.

SAPPHIRE 1 is particularly suitable for centralised lubrication systems greasing via long pipe runs.

SAPPHIRE 000 is designed particularly where centralised lubrication systems are used such as commercial vehicles heavy plant and other industrial applications. SAPPHIRE 000 is also ideal for use in grease filled gearboxes.

#### Pack Sizes

SAPPHIRE:	2	1	000
400g cartridge	12171	12601	-
5kg	12176	12606	12276
18kg	12175	12614	12284
50kg	12178	12608	-
185kg	12179	12609	-

## SAPPHIRE® 2, 1, 000

Triple life multi-purpose bearing grease

Property	Test Method	Result		
Appearance	Visual	Smooth blue grease		
SAPPHIRE 2 NLGI No.	IP 50 – ASTM D217	2		
SAPPHIRE 1 NLGI No.	IP 50 – ASTM D217	1		
SAPPHIRE 000 NLGI No.	IP 50 – ASTM D217	000		
Base Type	N/A	Severely refined mineral oil		
Base Fluid Viscosity at 40°C	IP 71	180cSt		
Base Fluid Viscosity at 100°C	IP 71	17cSt		
Thickener	N/A	Multi-complex soap technology		
Temperature Range	N/A	-30°C to +150°C		
4-Ball:		SAPPHIRE 2	SAPPHIRE 1	SAPPHIRE 000
Weld Load	IP239 – ASTM D2596	>800kg	> 800kg	>620kg
Mean Hertz Load	IP239 – ASTM D2596	120kg	120kg	65kg
Timken ‘OK’ Load	IP 326 – ASTM D2509	60 lb	60 lb	50 lb
Water Washout Test	IP 215 – ASTM D1264	2%	2%	N/A
Emcor Corrosion Test	IP 220	0:0	0:0	N/A
Copper Corrosion Test	IP 112 – ASTM D130	1a	1a	1a

Values quoted above are typical and do not constitute a specification.

### Safety Data Sheets

Safety data sheets are available for download from our website [www.rocol.com](http://www.rocol.com) or may be obtained from your usual ROCOL contact.

The information in this publication is based on our experience and reports from customers. There are many factors outside our control or knowledge which affect the use and performance of our products, for which reason it is given without responsibility.

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T +44 (0) 113 232 2600

F +44 (0) 113 232 2740

E [customer-service@rocol.com](mailto:customer-service@rocol.com)

[www.rocol.com](http://www.rocol.com)

ROCOL House, Swillington, Leeds LS26 8BS

Registered Company No. 559693 VAT No. 742 0531 67

Registered Office: Admiral House, St Leonard's Road, Windsor, Berkshire SL4 3BL

ROCOL A division of **ITW** Ltd



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Certificate No. EMS 67596



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Certificate No. OHS 78173



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## SAFETY DATA SHEET

SAPPHIRE 2, 1 & 000

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Compilation date: 16/08/2011

Revision No: 3

### Section 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name: SAPPHIRE 2, 1 & 000

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance / mixture: Lubricating Grease

#### 1.3. Details of the supplier of the safety data sheet

Company name: ROCOL

ROCOL House

Swillington

Leeds

West Yorkshire

LS26 8BS

ENGLAND

Tel: +44 (0) 113 232 2700

Fax: +44 (0) 113 232 2740

Email: [customer-service@rocol.com](mailto:customer-service@rocol.com)

#### 1.4. Emergency telephone number

Emergency tel: +44 (0) 113 232 2600

### Section 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classification under CHIP: This product has no classification under CHIP.

#### 2.2. Label elements

Label elements under CHIP:

Hazard symbols: No significant hazard.

#### 2.3. Other hazards

PBT: This substance is not identified as a PBT substance.

### Section 3: Composition/information on ingredients

#### 3.2. Mixtures

[cont...]

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## Hazardous ingredients:

SOLVENT REFINED BASE OIL (LESS THAN 3% DMSO)

EINECS	CAS	CHIP Classification	CLP Classification	Percent
265-101-6	64742-01-4	Substance with a Community workplace exposure limit.	-	50-70%

## Section 4: First aid measures

### 4.1. Description of first aid measures

**Skin contact:** Wash immediately with plenty of soap and water.

**Eye contact:** Bathe the eye with running water for 15 minutes.

**Ingestion:** Wash out mouth with water.

### 4.2. Most important symptoms and effects, both acute and delayed

**Skin contact:** There may be mild irritation at the site of contact.

**Eye contact:** There may be irritation and redness.

**Ingestion:** There may be irritation of the throat.

**Inhalation:** No symptoms.

### 4.3. Indication of any immediate medical attention and special treatment needed

## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

**Extinguishing media:** Use water spray to cool containers. Suitable extinguishing media for the surrounding fire should be used.

### 5.2. Special hazards arising from the substance or mixture

**Exposure hazards:** In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

### 5.3. Advice for fire-fighters

**Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

## Section 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions:** Refer to section 8 of SDS for personal protection details.

### 6.2. Environmental precautions

**Environmental precautions:** Do not discharge into drains or rivers.

### 6.3. Methods and material for containment and cleaning up

**Clean-up procedures:** Transfer to a closable, labelled salvage container for disposal by an appropriate method.

[cont...]

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## 6.4. Reference to other sections

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

**Handling requirements:** Avoid direct contact with the substance.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage conditions:** Store in cool, well ventilated area.

**Suitable packaging:** Must only be kept in original packaging.

### 7.3. Specific end use(s)

## Section 8: Exposure controls/personal protection

### 8.1. Control parameters

**Hazardous ingredients:**

**SOLVENT REFINED BASE OIL (LESS THAN 3% DMSO)**

**Workplace exposure limits:**

**Respirable dust**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	5mg/m <sup>3</sup>	10mg/m <sup>3</sup>	-	-

### 8.2. Exposure controls

**Respiratory protection:** Respiratory protection not normally required.

**Hand protection:** Nitrile gloves.

**Eye protection:** Safety glasses with side-shields.

**Skin protection:** Protective clothing.

## Section 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**State:** Paste

**Colour:** Blue

**Odour:** Odourless

**Evaporation rate:** Negligible

**Oxidising:** Non-oxidising (by EC criteria)

**Solubility in water:** Insoluble

**Viscosity:** Highly viscous

**Melting point/range°C:** > 230

**Flash point°C:** > 200

**Autoflammability°C:** > 200

**Relative density:** < 1

### 9.2. Other information

**Other information:** Not applicable.

[cont...]

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## Section 10: Stability and reactivity

### 10.1. Reactivity

### 10.2. Chemical stability

**Chemical stability:** Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

### 10.4. Conditions to avoid

**Conditions to avoid:** Heat.

### 10.5. Incompatible materials

**Materials to avoid:** Strong oxidising agents. Strong reducing agents.

### 10.6. Hazardous decomposition products

**Haz. decomp. products:** In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

**Toxicity values:** Not applicable.

### Symptoms / routes of exposure

**Skin contact:** There may be mild irritation at the site of contact.

**Eye contact:** There may be irritation and redness.

**Ingestion:** There may be irritation of the throat.

**Inhalation:** No symptoms.

## Section 12: Ecological information

### 12.1. Toxicity

**Ecotoxicity values:** Not applicable.

### 12.2. Persistence and degradability

**Persistence and degradability:** Only slightly biodegradable.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential:** No bioaccumulation potential.

### 12.4. Mobility in soil

**Mobility:** Non-volatile. Absorbed only slowly into soil.

### 12.5. Results of PBT and vPvB assessment

**PBT identification:** This substance is not identified as a PBT substance.

[cont...]

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## 12.6. Other adverse effects

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal of packaging:** Dispose of in a regulated landfill site or other method for hazardous or toxic wastes.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

## Section 14: Transport information

**Transport class:** This product does not require a classification for transport.

## Section 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

### 15.2. Chemical Safety Assessment

**Chemical safety assessment:** A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

## Section 16: Other information

### Other information

**Other information:** This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

Compiled in accordance with REACH.

**Legal disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.