

MIDLANDS LUBRICANTS LTD.



Material Safety Data Sheet

Hydraulic Oil ISO 46 MSDS

MSDS – Hydraulic Oil ISO 46

Information

Identification of the Substance/Preparation and the Company/Undertaking

1.1 Product identifier: Product name: Hydraulic Oil ISO 46

REACH registered name: Not determined REACH registered No: Not determined

CAS Number: Not determined

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

Identified use(s): Sectors of Use: - SU1- SU3, SU17, PC6 – PC17 - Lubricant

1.3 Details of the supplier of the safety data sheet: Midlands Lubricants Ltd

4 Huins Close, Lakeside, Redditch, Worcs. B98 8NR

www.midlandslubricants.co.uk Tel: 01527 585133 Email:

midlandslubricants@yahoo.co.uk Emergency telephone number: +44 (0) 7976

790 761 (Office Hours)

2. Hazards Identification

2.1 Classification of the Substance or Mixture: GHS- Classification [Regulation (EC) No 1272/2008 – Not Classified

2.2 Label Elements: GHS- Classification [Regulation (EC) No 1272/2008 – No label elements required.

2.3 Other Hazards: PBT: This product is not identified as a PBT / vPvB substance

QCR 040 Midlands Lubricants Ltd, 4 Huins Close, Lakeside, Redditch, Worcs.

Date Prepared 7FEB14 - Revised N/A

Version 1.0

SAFETY DATA SHEET

Hydraulic Oil ISO 46

Page: 2

3. Composition

3.1 Substances: Mineral Oil

3.2 Mixtures:

CAS No:	Substance Name	Mass % Range	EC Number	GHS/CLP Classification	REACH Reg No
64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic	80-100	265-169-7	Asp. Tox. 1 H304	01- 21194712 99-27
85940-28-9	Phosphoro dithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	<1	288-917-4	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2: H411	01- 21195212 01-61
67-63-0	Propan-2-ol	<1	200-661-7	Flam Liq. 2; H225 Eye Irrit. 2; H318 STOT SE 3; H336	01- 21194575 58-25

There are no ingredients present which, within current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section in accordance with Regulation (EC) No. 1272/2008

4. First aid measures

4.1. Description of first aid measures
Inhalation Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.
Skin Contact Wash contact areas with soap & water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the

QCR 040 Midlands Lubricants Ltd, 4 Huins Close, Lakeside, Redditch, Worcs.

Date Prepared 7FEB14 - Revised N/A
Version 1.0

SAFETY DATA SHEET

Hydraulic Oil ISO 46

Page: 3 Cont.

ultimate extent of injury. Eye Contact Flush thoroughly with water. If irritation occurs, get medical assistance. Ingestion First aid is normally not required. Seek medical attention if discomfort occurs.

4.2. Most important symptoms and effects, both acute and delayed Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection. Indication of any immediate medical attention and special treatment needed The need to have special means for providing specific and immediate medical treatment available in the workplace is not expected.

5. Fire-fighting measures

5.1. Extinguishing Media Suitable Extinguishing Media: Use Carbon dioxide, fire extinguishing powder, sand. Unsuitable Extinguishing Media: Straight streams of water

5.2. Special hazards arising from the substance or mixture Hazardous Combustion Products: combustion products, and resulting gases: Formation of acrolein by thermal decomposition ($> 270^{\circ}\text{C}$); Fire water should not be discharged into sewage systems or water courses.

5.3. Advice for fire fighters Fire Fighting Instructions: Acrolein vapour protection, e.g. self-contained breathing apparatus. Flammability Properties: Flash Point: $>305^{\circ}\text{C}$ Upper/Lower Flammable Limits (Approximate volume % in air): No data available Auto ignition Temperature: No data available

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures Notification Procedures In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Protective Measures Avoid contact with spilled material. See Section 5 for firefighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

QCR 040 Midlands Lubricants Ltd, 4 Huins Close, Lakeside, Redditch, Worcs.

Date Prepared 7FEB14 - Revised N/A
Version 1.0

SAFETY DATA SHEET

Hydraulic Oil ISO 46

Page: 4 Cont.

6.2. Environmental Precautions Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

6.3. Methods and material for containment and cleaning up Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent. Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants. Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

6.4. References to other sections See Sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity). Static Accumulator: This material is a static accumulator.

7.2. Conditions for safe storage, including any incompatibilities The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

7.3. Specific end uses: Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

SAFETY DATA SHEET

Hydraulic Oil ISO 46

Page: 5

8. Exposure Controls/Personal Protection

8.1 Control Parameters: Exposure limit values Exposure limits/standards (Note: Exposure limits are not additive) Substance Name Form Limit/Standard Source Distillates (petroleum), solvent-dewaxed heavy paraffinic Mist. TWA 5 mg/m³ ACGIH Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following is recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction). 10 mg/m³ - ACGIH STEL Note: Information about recommended monitoring procedures can be obtained from the relevant agency (ies) /institute(s): UK Health and Safety Executive (HSE) DERIVED NO EFFECT LEVEL Worker Substance Name Dermal Inhalation Distillates (petroleum), solvent-dewaxed heavy paraffinic NA 5.4 mg/m³ DNEL, Chronic Exposure, Local Effects Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts 9.6 mg/kg/day Long-term systemic effects 6.6 mg/m³ Long-term systemic effects Consumer Substance Name Dermal Inhalation Oral Distillates (petroleum), solvent-dewaxed heavy paraffinic NA 1.2 mg/m³ DNEL, Chronic Exposure, Local Effects NA Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts 4.8 mg/kg Long-term systemic effects 1.67 mg/m³ Long-term systemic effects 0.19 mg/kg/day Long-term systemic effects Note: The Derived No Effect Level (DNEL) is an estimated safe level of exposure that is derived from toxicity data in accord with specific guidance within the European REACH regulation. The DNEL may differ from an Occupational Exposure Limit (OEL) for the same chemical. OELs may be recommended by an individual company, a governmental regulatory body or an expert organization, such as the Scientific Committee for Occupational Exposure Limits (SCOEL) or the American Conference of Governmental Industrial Hygienists (ACGIH). OELs are considered to be safe exposure levels for a typical worker in an occupational setting for an 8-hour work shift, 40 hour work week, as a time weighted average (TWA) or a 15 minute short-term exposure limit (STEL). While also considered to be protective of health, OELs are derived by a process different from that of REACH. PREDICTED NO EFFECT CONCENTRATION (PNEC) Substance Name Aqua (fresh water) Aqua (marine water) Marine Water Sediment Fresh Water Sediment Sewage Treatment plant Soil Oral (secondary poisoning) Distillates (petroleum), solvent-dewaxed heavy paraffinic NA NA NA NA NA NA NA 9.33 mg/kg (food) Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts 0.002 mg/l - 1.93 mg/kg 19.3 mg/kg - - -

8.2. Exposure Controls Engineering Controls The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: No special requirements under ordinary conditions of use and with adequate ventilation. Personal Protection Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage. Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is

QCR 040 Midlands Lubricants Ltd, 4 Huins Close, Lakeside, Redditch, Worcs.

SAFETY DATA SHEET

Hydraulic Oil ISO 46

Page: 6 Cont

adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: No special requirements under ordinary conditions of use and with adequate ventilation. For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded. Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: No protection is ordinarily required under normal conditions of use. Eye Protection: If contact is likely, safety glasses with side shields are recommended. Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact. Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Environmental Controls Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

9. Physical and Chemical Properties

9.1 Information on basic chemical and physical properties:

Appearance: Amber to Light Brown

Liquid Odour: Typical - Mild

pH: Not determined

Boiling point/ range: Not determined

Flash Point: >216°C

Evaporation Point: Not determined

Flammability (solid, gas): Not determined

Explosion Limits: Not determined

Vapour pressure: Not determined

Vapour density: Not determined

Relative density (at 15°C): 0.86 – 0.88 Solubility in water:

Insoluble Solubility in other solvents: Not determined

Partition coefficient n-octanol/water: Not determined Auto-ignition temperature:
Not determined

Decomposition temperature: Not determined

QCR 040 Midlands Lubricants Ltd, 4 Huins Close, Lakeside, Redditch, Worcs.

Date Prepared 7FEB14 - Revised N/A

Version 1.0

SAFETY DATA SHEET

Hydraulic Oil ISO 46

Page: 7 Cont

Viscosity (Kinematic, at 40°C): 46 cSt

Viscosity (Kinematic, at 100°C): 6.75 cSt

Explosive properties: None

Oxidizing properties: None

9.2 Other Information: Pour Point - 30°C Viscosity Index 100 Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

10. Stability and Reactivity

10.1 Reactivity: See sub-sections below.

10.2 Chemical stability: Material is stable under normal conditions.

10.3 Possibility of hazardous reactions: Hazardous polymerization will not occur.

10.4 Conditions to avoid: Excessive heat. High energy sources of ignition.

10.5 Incompatible materials: Strong oxidisers

10.6 Hazardous decomposition products: Material does not decompose at ambient temperatures.

11. Toxicological Information

11.1 Information on toxicological effects Information on likely routes of exposure
Eye contact Ingestion Inhalation Skin contact Aspiration Product: Not expected to be an aspiration hazard. Based on physio-chemical properties of the material.
Acute toxicity Product: Acute oral toxicity Remarks: No data available Acute inhalation toxicity Remarks: No data available Acute dermal toxicity Remarks: No data available Component: Distillates (petroleum), solvent-dewaxed heavy paraffinic – 64742-65-0 Acute oral toxicity LD50 (Rat): > 5000 mg/kg Acute inhalation toxicity LC50 (Rat): > 5.3 mg/l Exposure time: 4 h Test atmosphere: air Acute dermal toxicity LD50 (Rabbit): > 5000 mg/kg Skin corrosion/irritation Product: Remarks: No data available Component: Distillates (petroleum), solvent-dewaxed heavy paraffinic – 64742-65-0 Result: There may be mild irritation at the site of contact. Serious eye damage/eye irritation Product: Remarks: No data available Component: Distillates (petroleum), solvent-dewaxed heavy paraffinic – 64742-65-0 Result: There may be irritation and redness. Respiratory or skin sensitization There may be irritation of the throat with a feeling of tightness in the chest. Germ cell mutagenicity No data available Carcinogenicity No data available Reproductive toxicity No data available STOT - single exposure No data available STOT - repeated exposure No data available Aspiration Aspiration hazard. Can enter lungs and cause damage.

QCR 040 Midlands Lubricants Ltd, 4 Huins Close, Lakeside, Redditch, Worcs.

Date Prepared 7FEB14 - Revised N/A

Version 1.0

SAFETY DATA SHEET

Hydraulic Oil ISO 46

Page: 8 Cont

12. Ecological Information

12.1. Toxicity - Product -- May cause long lasting harmful effects to aquatic life. Distillates (petroleum), solvent-dewaxed heavy paraffinic - CAS No – 64742-65-0 toxicity to fish – 96hrs Acute EC50 –Pimephales promelas >100 mg/L toxicity to algae – 72hrs EC50 - Pseudokirchneriella subcapitata >100 mg/L

12.2. Persistence and degradability Biodegradation: Base oil component -- Expected to be inherently biodegradable - May cause long term effects in the environment.

12.3. Bio-accumulative potential Base oil components -- Have the potential to bio-accumulate, however metabolism or physical properties may reduce the bio-concentration or limit bioavailability.

12.4. Mobility in soil Base oil components -- Low solubility and float and are expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

12.5. Persistence, bioaccumulation and toxicity for substance(s) This product is not, or does not contain, a substance that is a PBT or a vPvB.

12.6. Other adverse effects No other adverse effects are expected.

13 Disposal Considerations Disposal recommendations based on material as supplied.

Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

13.1. Waste treatment methods Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants. Regulatory Disposal Information European Waste Code: 13 02 05 NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s). This material is considered as hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies. Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

QCR 040 Midlands Lubricants Ltd, 4 Huins Close, Lakeside, Redditch, Worcs.

Date Prepared 7FEB14 - Revised N/A
Version 1.0

SAFETY DATA SHEET

Hydraulic Oil ISO 46

Page: 9 Cont

14. Transport Information LAND (ADR/RID):

14.1-14.6 Not Regulated for Land Transport INLAND WATERWAYS

(ADNR/ADN): 14.1-14.6 Not Regulated for Inland Waterways Transport SEA

(IMDG): 14.1-14.6 Not Regulated for Sea Transport according to IMDG-Code SEA (MARPOL 73/78 Convention - Annex II):

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not classified AIR (IATA): 14.1-14.6 Not Regulated for Air Transport

15. Regulatory Information

Applicable EU Directives and Regulations: 1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto] 689/2008/EC [... concerning the export and import of dangerous substances and amendments thereto] 1272/2008 [... on classification, labelling and packaging of substances and mixtures.. and amendments thereto] 15.2.

Chemical Safety Assessment REACH Information: A Chemical Safety Assessment has been carried out for one or more substances present in the material.

16. Other Information Indication of changes:

First Issue Key to the H-codes contained in section 3 of this document (for information only): Asp. Tox. 1; H304 - May be fatal if swallowed and enters airways - aspiration hazard – Cat 1 Skin Irrit. 2; H315 - Causes skin irritation. -- Skin Irritant Cat 2 Eye Dam. 1; H318 - Causes serious eye damage. – Eye Damage Cat 1 Aquatic Chronic 2; H411 - Toxic to aquatic life with long lasting effects. STOT SE3; H336 – May cause drowsiness or dizziness. Eye Irrit. 2; H319; - Causes serious eye irritation. – Eye Irritation Cat 2 Flam. Liq. 2; H225 - Highly flammable liquid and vapour. Flammable liquid Cat 2 Abbreviations & Acronyms PNEC Predicted No Effect Level DNEL Derived No Effect Level LD50 Median Lethal Dose LC50 Median Lethal Concentration CAS No Chemical Abstract Services number CLP Classification Labelling and Packaging Regulation GHS Global Harmonisation Scheme ES Exposure Scenario EC European Commission EC No European Chemical Number – EINECS - ELINCS ECHA European Chemical Agency EINECS European Inventory of Existing Commercial Chemical Substances ELINCS European List of Notified Chemical Substances. TWA Time Weighted Average ACGIH American Conference of Governmental Industrial Hygienists STEL Short Term Exposure Limits

DISCLAIMER: The information and recommendations contained herein are, to the best of Midlands Lubricants Ltd's knowledge and belief, accurate and reliable as of the date issued, but is offered without guarantee or warranty. They relate to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Conditions of use of the material are under the control of the user. Therefore, it is the user's responsibility to satisfy their self as to the suitability and completeness of such information for their own particular use.

QCR 040 Midlands Lubricants Ltd, 4 Huins Close, Lakeside, Redditch, Worcs.

Date Prepared 7FEB14 - Revised N/A
Version 1.0