SAFETY DATA SHEET

Kubota® ISO 46 ALL-WEATHER HYDRAULIC FLUID
KU10602

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name: Kubota® ISO 46 ALL-WEATHER HYDRAULIC FLUID

Details of the supplier of the safety data sheet

Valvoline LLC
100 Valvoline Way
Lexington, KY 40509
United States of America (USA)
1-800-TEAMVAL

Emergency telephone number
1-800-VALVOLINE (1-800-825-8654)

Regulatory Information Number
1-800-TEAMVAL

Product Information
1-800-TEAMVAL

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
This material is considered hazardous under the OSHA Hazard Communication Standard criteria, based on hazard(s) not otherwise classified.

GHS label elements
This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

Other hazards
Static-accumulating flammable liquid.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Chemical nature: Static Accumulator

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based</td>
<td>72623-87-1</td>
<td>Asp. Tox. 1; H304</td>
<td>1.064</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES
General advice : No hazards which require special first aid measures.

If inhaled : If breathed in, move person into fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.

In case of eye contact : Remove contact lenses.
Protect unharmed eye.

If swallowed : Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Acute aspiration of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Repeated aspiration of small quantities of mineral oil can produce chronic inflammation of the lungs (i.e. lipoid pneumonia) that may progress to pulmonary fibrosis. Symptoms are often subtle and radiological changes appear worse than clinical abnormalities. Occasionally, persistent cough, irritation of the upper respiratory tract, shortness of breath with exertion, fever, and bloody sputum occur. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Carbon dioxide (CO2)
Dry chemical

Specific hazards during : Do not allow run-off from fire fighting to enter drains or water
firefighting courses.

Hazardous combustion products: carbon dioxide and carbon monoxide Hydrocarbons

Specific extinguishing methods:

Product is compatible with standard fire-fighting agents.

Further information: Standard procedure for chemical fires.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions: Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

Other information: Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling: Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8.

Materials to avoid: No materials to be especially mentioned.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lubricating Oils (Petroleum)</td>
<td>72623-87-1</td>
<td>REL</td>
<td>5 mg/m3</td>
<td>NIOSH/GUID</td>
</tr>
</tbody>
</table>
C20-50, Hydrotreated Neutral Oil-Based          Mist.          E

<table>
<thead>
<tr>
<th></th>
<th>STEL</th>
<th>10 mg/m³ Mist.</th>
<th>NIOSH/GUIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PEL</td>
<td>5 mg/m³ Mist.</td>
<td>OSHA_TRANS</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m³ Mist.</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>10 mg/m³ Mist.</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.2 mg/m³ Inhalable fraction.</td>
<td>ACGIHLIS_P</td>
</tr>
</tbody>
</table>

**Engineering measures**: General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

**Personal protective equipment**

**Respiratory protection**: No personal respiratory protective equipment normally required.

**Eye protection**: Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

**Skin and body protection**: Wear as appropriate: Safety shoes Wear resistant gloves (consult your safety equipment supplier).

**Hygiene measures**: General industrial hygiene practice.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical state**: liquid
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>&gt; 425 °F / 218 °C (1013.33 hPa)</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 390 °F / &gt; 199 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>1 Ethyl Ether</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Static-accumulating flammable liquid.</td>
</tr>
<tr>
<td>Flammability (liquids)</td>
<td></td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>6 %(V) Calculated Explosive Limit</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>1 %(V) Calculated Explosive Limit</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>0.0133333 hPa (21.11 °C) Calculated Vapor Pressure</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>0.8686 g/cm³ (15.56 °C)</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
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<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Viscosity, kinematic: 42 - 50 mm²/s (40 °C)

Oxidizing properties: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity: No decomposition if stored and applied as directed.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: Product will not undergo hazardous polymerization.

Conditions to avoid: None known.

Incompatible materials: Strong oxidizing agents

Hazardous decomposition products: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:
- Inhalation
- Skin contact
- Eye Contact
- Ingestion

Acute toxicity
Not classified based on available information.

Components:
Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity:
- LC50 (Rat): > 5.58 mg/l
- Exposure time: 4 h
- Test atmosphere: dust/mist
- Assessment: Not classified as acutely toxic by inhalation under GHS.
- Remarks: No mortality observed at this dose.

Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg
- Remarks: No mortality observed at this dose.

Skin corrosion/irritation
Not classified based on available information.

Components:
Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based:
Species: Rabbit
Result: No skin irritation

**Serious eye damage/eye irritation**
Not classified based on available information.

**Product:**
Remarks: Unlikely to cause eye irritation or injury.

**Components:**
Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based:
Species: Rabbit
Result: No eye irritation

**Respiratory or skin sensitisation**
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.

**Components:**
Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based:
Test Type: Buehler Test
Species: Guinea pig
Assessment: Does not cause skin sensitisation.

Germ cell mutagenicity
Not classified based on available information.

**Carcinogenicity**
Not classified based on available information.

**Reproductive toxicity**
Not classified based on available information.

**STOT - single exposure**
Not classified based on available information.

**STOT - repeated exposure**
Not classified based on available information.

**Aspiration toxicity**
Not classified based on available information.

**Product:**
No aspiration toxicity classification

**Components:**
Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based:
May be fatal if swallowed and enters airways.

**Further information**

**Product:**
Remarks: No data available

**Carcinogenicity:**
**IARC**
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**
No component of this product present at levels greater than or
equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Product:**

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

**Components:**

Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based:

**Toxicity to fish**

: LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l
  
  Exposure time: 96 h
  
  Test Type: static test
  
  Test substance: WAF
  
  Method: OECD Test Guideline 203
  
  Remarks: No toxicity at the limit of solubility

**Toxicity to daphnia and other aquatic invertebrates**

: EL50 (Daphnia magna (Water flea)): > 10,000 mg/l
  
  Exposure time: 48 h
  
  Test Type: static test
  
  Test substance: WAF
  
  Method: OECD Test Guideline 202

**Toxicity to algae**

: NOEL (Pseudokirchneriella subcapitata (green algae)): >= 100 mg/l
  
  End point: Growth inhibition
  
  Exposure time: 72 h
  
  Test Type: static test
  
  Test substance: WAF
  
  Method: OECD Test Guideline 201

**Toxicity to fish (Chronic toxicity)**

: NOELR (Oncorhynchus mykiss (rainbow trout)): Calculated >= 1,000 mg/l
  
  Exposure time: 14 d

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**

: NOEL (Daphnia (water flea)): 10 mg/l
  
  Exposure time: 21 d
  
  Test substance: WAF
  
  Method: OECD Test Guideline 211
Persistence and degradability

Components:
Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based:
Biodegradability : Result: Not readily biodegradable.
                  Biodegradation: 2 - 4 %
                  Exposure time: 28 d
                  Method: OECD Test Guideline 301B

No data available

Bioaccumulative potential

Components:
No data available

Mobility in soil

Components:
No data available

Other adverse effects
No data available

Product:

Additional ecological information : No data available

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

<table>
<thead>
<tr>
<th>ID NUMBER</th>
<th>PROPER SHIPPING NAME</th>
<th>*HAZARD CLASS</th>
<th>SUBSIDIARY HAZARDS</th>
<th>PACKING GROUP</th>
<th>MARINE POLLUTANT / LTD. QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MX_DG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
<pre><code>    | Not dangerous goods  |               |                    |               |                               |
</code></pre>

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods
**INTERNATIONAL MARITIME DANGEROUS GOODS**

Not dangerous goods

**TDG_INWT_C**

Not dangerous goods

**TDG_RAIL_C**

Not dangerous goods

**TDG_ROAD_C**

Not dangerous goods

**U.S. DOT - INLAND WATERWAYS**

Not dangerous goods

**CFR_RAIL_C**

Not dangerous goods

**U.S. DOT - ROAD**

Not dangerous goods

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*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

| Marine pollutant | no |

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

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**SECTION 15. REGULATORY INFORMATION**

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**CERCLA Reportable Quantity**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>1000</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**
This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards**: No SARA Hazards

**SARA 313**
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**California Prop 65**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**The components of this product are reported in the following inventories:**
- **DSL**: All components of this product are on the Canadian DSL
- **AICS**: On the inventory, or in compliance with the inventory
- **ENCS**: On the inventory, or in compliance with the inventory
- **KECI**: On the inventory, or in compliance with the inventory
- **PICCS**: On the inventory, or in compliance with the inventory
- **IECSC**: On the inventory, or in compliance with the inventory
- **TSCA**: On TSCA Inventory

**Inventories**
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

**SECTION 16. OTHER INFORMATION**

**Further information**
Revision Date: 05/19/2017

| NFPA: | HMIS III: |
SAFETY DATA SHEET

Kubota® ISO 46 ALL-WEATHER HYDRAULIC FLUID

KU10602

NFPA Flammable and Combustible Liquids Classification
Combustible Liquid Class IIIB

Full text of H-Statements
H304 May be fatal if swallowed and enters airways.

Sources of key data used to compile the Safety Data Sheet
Valvoline internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Valvoline's Environmental Health and Safety Department (1-800-VALVOLINE).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet:
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
<td>International Maritime Code for Dangerous Goods</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>logPow</td>
<td>octanol-water partition coefficient</td>
</tr>
<tr>
<td>LCxx</td>
<td>Lethal Concentration, for xx percent of test population</td>
</tr>
<tr>
<td>LDxx</td>
<td>Lethal Dose, for xx percent of test population</td>
</tr>
<tr>
<td>ICxx</td>
<td>Inhibitory Concentration for xx of a substance</td>
</tr>
<tr>
<td>Ecxx</td>
<td>Effective Concentration of xx</td>
</tr>
<tr>
<td>N.O.S.</td>
<td>Not Otherwise Specified</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
</tr>
<tr>
<td>OEL</td>
<td>Occupational Exposure Limit</td>
</tr>
<tr>
<td>P-Statement</td>
<td>Precautionary Statement</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term exposure limit</td>
</tr>
<tr>
<td>STOT</td>
<td>Specific Target Organ Toxicity</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time-weighted average</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and Very Bioaccumulative</td>
</tr>
<tr>
<td>WEL</td>
<td>Workplace Exposure Level</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
</tr>
<tr>
<td>DOT</td>
<td>Department of Transportation</td>
</tr>
<tr>
<td>FIFRA</td>
<td>Federal Insecticide, Fungicide, and Rodenticide Act</td>
</tr>
<tr>
<td>HMIRC</td>
<td>Hazardous Materials Information Review Commission</td>
</tr>
<tr>
<td>HMIS</td>
<td>Hazardous Materials Identification System</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Association</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety and Health</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>PMRA</td>
<td>Health Canada Pest Management Regulatory Agency</td>
</tr>
<tr>
<td>RTK</td>
<td>Right to Know</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
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</tbody>
</table>