

Material Safety Data Sheet

* 1 - Preparation and company identification

Identification of the preparation Olio PAG 100 HFO 1234YF 250ML

11.030YF

Preparation use Compressor lubricant.

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* 2 - Hazards identification

Not dangerous good.

Hazards The substance is not regarded as hazardous according to the Directive 1272/2008/EEC.

Main risks to health/environment No particular risks in normal working conditions. We recommend, however, to keep normal personal hygiene and to avoid frequent and prolonged contact. Use according to good working practice avoiding to disperse the product in the environment.

Other hazards This product does not contain any PBT or vPvB substances.

* 3 - Composition / Information on ingredients

The preparation does not contain any substance that require the declaration in accordance with regulation CE 1272/2008.

Components information The content of DMSO extract, determined with the IP 346/92 method is lower than 3% in weight.

Chemical composition Synthetic base oil with additives.

4 - First aid measures

Inhalation If exposed to high concentration of vapours and fogs move the person from contaminated area to well ventilated place. With labored breathing, provide oxygen. If respiratory arrest occurs make ventilation. If suspected inalathion, seek medical assistance.

Contact with the skin Remove contaminated clothes and wash with soap and plenty of water. If irritation persist, get medical attention.

Contact with the eyes Immediately flush eyes with plenty of water for a few minutes while keeping eyelids open. Get medical attention.

Ingestion Do not induce vomit to avoid aspiration through the respiratory tract. Get medical attention.

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5 - Fire-fighting measures

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| Fire-fighting equipment | Extinguish flames with foam, dry chemicals, CO ₂ . |
| Inappropriate extinguishers | Do not use direct water jets. Use water jets just to cool down surfaces exposed to fire. |
| Specific dangers in case of exposition to the chemicals, its combustion products or gases | Avoid breathing combustion fumes that, in case of fire, can form carbon monoxide fuel gases, carbon dioxide, sulphur, phosphorus, nitrogen and unburnt hydrocarbon compounds and other derivatives potentially dangerous. |
| Specific protective equipment for fire-fighting personnel | Wear protective overalls with self-breathing equipment. |

6 - Accidental release measures

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| Person - related safety precautions | Wear gloves, protecting clothes and glasses. In case of indoors significant spill avoid to breathe vapours by ventilating the area or by wearing breath protecting equipment. Remove possible ignition sources. |
| Environmental precautions | Avoid to disperse the product in ground, into sewers and into surface waters. If necessary inform local authorities. |
| Decontamination procedures | In case of significant spillage, stem and transfer product to suitable containers. Spillage on ground: stem spilled product with soil or sand, clean up spilled product and dispose according to local regulations. Spillage in water: stem immediately the spillage. Mechanically remove spilled product from the surface. |

7 - Handling and storage

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| Handling | Avoid direct contacts with the product. Do not breathe aerosol or product mist guaranteeing a suitable ventilation in working areas. Do not smoke and avoid any contact with ignition sources. Keep containers closed when not used. |
| Storage | Keep the product in original containers. Storage in a fresh place, away from heating sources and direct sun exposition. Avoid to accumulate electrostatic charge. Keep closed and covered the containers to avoid infiltrations of rain. Maintain suitable ventilation of the work place. |
| Empty containers | The containers contain product residues. Dispose the containers in safe ecological way according to the local regulations. |

* 8 - Exposure controls / personal protection

According to data in our possession, any component presents no exposure limits in working place.

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| Exposure control | Avoid the formation of hazes or aerosol and use engineering controls, ventilation or localized aspiration if necessary. |
| Breathing equipment | Not necessary under normal working conditions. |
| Hands and skin protection | Wear gloves and protective overalls; change immediately contaminated clothes and wash them thoroughly before use. We recommend to keep normal personal hygiene and of working clothes. Wear gloves only after having thoroughly washed your hands. |
| Eyes protection | Wear safety protective glasses where it is possible to be in contact with the product. |

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9 - Physical and chemical properties

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| Physical status- : | Liquid |
| Colour- : | Colourless |
| Odour- : | Typical |
| pH : | 5,5 - 7,5 (16,7% Isopropyl alcohol/water 10/6) |
| Water Solubility- : | Partially soluble |
| Density at 15°Ckg/l : | 0,997 |
| Kinematic Viscosity at 40°CcSt : | 103,4 |
| Flash Point (C.O.C.)°C : | 225 |
| Pour Point°C : | -34 |
| Boiling pointPa : | Decompose before boiling |

10 - Stability and reactivity

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| Conditions to avoid | High temperature (>150°C) can cause decomposition with development of odorous and toxic smoke. |
| Reactivity and materials to avoid | Avoid contacts with strong acid, strong bases and oxidation agents. Avoid extreme heat and high energy sources of ignition. |
| Stability | Stable product in normal applications. |

11 - Toxicological information

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| Chronic toxicity | Exposure to oil vapour that exceeds Professional Inhalation Limits can cause respiratory system irritations. |
| Skin contact | LD50 skin (rabbit) > 2000 mg/kg (estimated). Frequent and continuous contacts could decrease skin and cause dermatitis. |
| Eyes contact | It can cause light irritation. |
| Oral toxicity | LD50 (rats): > 2000 mg/kg (estimated). The product if ingested can irritate the digestive apparatus and induce vomiting, cause nausea and diarrhea. |
| Inhalation | Long term exposure to the product mist can cause irritation to the respiratory system. |

* 12 - Ecological information

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| Mobility | Logarithm of the coefficient of distribution ottanolo/water is considered to be < 3. |
| Degradability | Not determined. |
| Accumulation | For this product a low potential of bioconcentration is estimated. |
| Ecotoxicity | In compliance with EEC Regulations the product is not regarded as hazardous to the environment. |

13 - Disposal considerations

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| General information | Do not dispel the environment. Comply with the current laws. |
| Disposal | Avoid to disperse the product on ground, into sewers and surface waters. Discharge the exhausted products and the containers through the authorized industries in compliance with the state and local regulations for disposal of this type of waste. |

14 - Transport information

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| ADR-Classe: | Not dangerous |
| IATA-Classe: | Not dangerous |
| IMDG-Classe: | Not dangerous |

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| Transport name | Olio PAG 100 for HFO 1234YF 11.030YF |
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* 15 - Regulatory information

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| Reference Laws | This Safety Data Sheet complies with the Regulation n.453/2010. |
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Regulation (CE) n.1907/2006 (REACH); Regulation (CE) n.1272/2008 (GHS/CLP); I



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ATP n.790/2009; II ATP n.86/2011; III ATP n.618/2012; IV ATP n.487/2013.

Refer also to local laws.

* 16 - Other information

Relevant H phrases

Warning

The information presented in this Material Safety Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. The purpose of this data sheet is to inform and assume a correct technological use of the product. ELKE S.r.l. company does not take any responsibility resulting from any damage or injury resulting from abnormal use.