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## **INDUSTRIAL GEAR OIL (IGO)**

High performance, Ep, industrial gear oil lubricant formulated with a sulphur-phosphorus additive package.

### **APPLICATIONS**

Spur, bevel, helical, worm and industrial Hypoid gear cases and industrial type reduction gearboxes.

### **PERFORMANCE LEVEL**

Meets the requirements of u.s. steel specification 224 and AGMA specification 250.04.  
Also meets the Cincinnati Milacron and David Brown gear industries requirements.

<b>TYPICAL PHYSICAL CHARACTERISTICS</b>	<b>ISO 68</b>	<b>ISO 100</b>	<b>ISO 150</b>	<b>ISO 220</b>	<b>ISO 320</b>	<b>ISO 460</b>
AGMA Grade	2EP	3EP	4EP	5EP	6EP	7EP
David Brown Grade	2E	3E	4E	5E	6E	7E
Colour ASTM	4	4	4	>6	7	7
Channel point	-34	-26	-26	-18	-10	-10
Density @ 20°C, KG/L	0.881	0.886	0.895	0.904	0.911	0.921
Flash point COC, °C	220	238	246	256	270	280
Fire point COC, °C	234	254	264	268	286	294
FZG, Load Stage	12	12	12	12	12	12
Test SEQ 2 TEND/STAB	0/0	0/0	0/0	0/0	0/0	0/0
Pour point	-9	-9	-9	-9	-9	-9
Timken OK Load, KG	27	27	27	27	27	27
Viscosity Kinematic						
Cst @ 40°C	68.0	100	150	220	320	458
Cst a 100 °C	8.9	11.5	14.1	18.1	21.7	28.4
Viscosity Index	104	100	96	93	90	90

**1. PRODUCT AND COMPANY IDENTIFICATION**

Trade Name	FLEETLINE AUTOMATIC GEAR OIL
Manufacturer/Supplier	FLEETLINE LUBRICANTS PO BOX 9699 Bloemfontein 9300
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Website	www.fleetline.co.za

**2. COMPOSITION/INFORMATION ON THE COMPONENTS****Hazardous Components in Product**

Component Name	Codes	Concentration	R Phrases	Classification
SOLVENT REFINED MINERAL OIL		90.00 – 95.00		
PERFORMANCE AGENTS		5.00 - 10.00		

**3. HAZARD IDENTIFICATION**

Main Hazards	Not hazardous according to OSHA 29 CFR 1910.1200
Health Effects – Eyes	May cause irritation to the eyes.
Health Effects – Skin	No hazard providing normal cleansing is carried out.
Health Effects – Ingestion	No problems expected for minor ingestion. However, for amounts exceeding ½ litre give 1 or 2 glasses of water and call a doctor.
Health Effects – Inhalation	May cause irritation, dizziness or nausea if inhaled over a prolonged period, especially whilst hot.

**4. FIRST AID MEASURES**

First Aid – Eyes	Flush thoroughly with water. If irritation occurs, call a doctor.
First Aid – Skin	Wash skin with soap and water.
First Aid – Ingestion	Wash out mouth with water. Obtain medical attention. Do not induce vomiting.
First Aid – Inhalation	Remove from exposure and if the patient experiences irritation, nausea or unconsciousness, seek medical assistance.

**5. FIRE FIGHTING MEASURES**

Extinguishing Media	Use foam, dry chemical, carbon dioxide or water fog.
Unsuitable Extinguishing Media	Do not use water jet.
Special Hazards of Product	No special hazards.
Protective Equip, for Fire-Fighting	Wear self-contained breathing apparatus for fires in enclosed spaces.

**6. ACCIDENTAL RELEASE MEASURES**

Personal Precautions	Material can create slippery conditions underfoot.
Environmental Precautions	Try to prevent the material from entering drains or watercourses.
Spillages	Contain and absorb using diatomaceous earth or other inert material. Transfer into suitable containers for disposal.

**7. HANDLING AND STORAGE**

Handling	No special precautions are required.
Storage	Storage temperature should be controlled to between 1 and 40 °C. Where outside storage of drums is unavoidable, they should be stored horizontally to avoid ingress of water.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Occupational Exposure Standards OIL MIST, CHEMICAL	UK EH40: OES 5mg/m <sup>3</sup> 8 h TWA. UK EH40: OES 10mg/m <sup>3</sup> 15 min TWA.
Engineering Control Measures	Exposure to this material may be controlled in a number of ways. The measures appropriate for a particular worksite depend on how the material is used and on the potential for exposure. Use of the basic principles of industrial Hygiene will enable this material to be used safely.
Respiratory Protection	Respiratory protection is not normally required.
Hand Protection	No special protection needed. However, good personal hygiene practices should always be followed.
Eye Protection	Chemical goggles if there is a risk of eye contact.
Body Protection	Normal work wear.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State	Liquid
Colour	Amber
Odour	Fain
t pH	N/A
Boiling Range/Point (°C)	Boils above
320°C Flash Point (PMCC) (°C)	Exceeds 200 °C
Solubility in Water (kg/m <sup>3</sup> )	Insoluble
Density (kg/m <sup>3</sup> )	0.885 kg per litre
Auto-flammability (°C)	Above
350°C Viscosity (cSt)	

**10. STABILITY AND REACTIVITY**

Stability	Stable under normal conditions
Conditions to Avoid	Strong oxidation
Materials to Avoid	Strong oxidizing agents
Hazardous Decomposition Products	Combustion will generate carbon monoxide and smoke, possibly thick and choking, resulting in zero visibility.

