

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : GEARBOX LUBRICANT - DRYNERT 25/6

1. Product and Company Identification

Product name: Drynert 25/6
Synonyms: None
Item Numbers: H11312021, H11312022, H11312025

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2. Hazards Identification

EMERGENCY OVERVIEW

The product, when properly handled according to good working and hygienic practices is not dangerous for human health and the environment.

Harmful effects may occur when, as a result of heating, thermal decomposition produces toxic and corrosive gases.

For short and long term exposure effects see Section 11 Toxicological data.

Eye Effects: Repeated or prolonged contact with eyes may cause redness.
Skin Effects: Repeated or prolonged contact with skin may cause redness or dermatitis
Ingestion/Oral Effects: Ingestion of the product may cause abdominal pain, nausea and vomiting.
Inhalation Effects: Low volatility makes inhalation an unlikely hazard. The thermal decomposition vapours of fluorinated polymers may cause polymer fume fever with flu like symptoms in humans, especially when smoking contaminated tobacco.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

NFPA Hazard codes		HMIS Hazard codes		Rating System
Health	1	Health	1	0 = No Hazard
Flammability	0	Flammability	0	1 = Slight Hazard
Instability	0	Reactivity	0	2 = Moderate Hazard
				3 = Serious Hazard
				4 = Severe Hazard

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3. Composition/Information on Ingredients

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd.	95	69991-67-9	Not applicable	Not applicable
Perfluoropolyethers derivative	5	370097-12-4	Not applicable	Not applicable

*Hazard class & Risk phrase. These columns are only completed for ingredients which are classified as hazardous under EU Directive No 1272/2008 (as amended) and are present in sufficient concentration to make the overall substance hazardous. In all other situations, the column will be completed as "Not applicable".

4. First Aid Measures

Eyes:	Immediately flush the eyes, and under the eyelids, with plenty of water for at least 15 minutes. If irritation occurs, seek medical attention.
Skin:	Wash with soap and water. If irritation occurs, seek medical attention.
Ingestion/Oral:	Give several glasses of water to drink. Do not induce vomiting. Seek medical attention if persistent pain arises.
Inhalation:	Move to fresh air in cases of accidental inhalation of vapours from decomposition products. If breathing problems occur, a qualified individual should administer oxygen or artificial respiration as indicated. Seek immediate medical attention.
Other Information:	None.

5. Fire Fighting Measures

Extinguishing Media:	Water, foam, powder, dry chemical, carbon dioxide.
Fire and Explosion Hazard:	Possible risk due to irritation and toxic affects of thermal combustion products. These can include gaseous hydrogen fluoride and fluorophosgene. Direct water stream may cause violent frothing.
Special Protective Equipment for Fire Fighters:	Fire fighters should wear a self-contained breathing apparatus (SCBA) which meets appropriate standards operated in positive pressure mode. An acid resistant over suit for skin protection should be worn when close proximity intervention is necessary.
Other information	<ul style="list-style-type: none">- Evacuate personnel to safe areas- Approach from upwind- Protect intervention team with a water spray as they approach the fire- Keep containers and surroundings cool with water spray- Keep product and empty container away from heat and sources of ignition.

For Flammability Properties - see Section 9

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6. Accidental Release Measures

In the event of spillage:

- Prevent contact of the spilled product with hot surfaces and flames.
- Wear personal protective clothing (see Section 8 Exposure Controls and Personal Protection).
- Prevent further leakage or spillage if safe to do so.
- Recover released product by absorbing with earth, sand or sawdust and collecting in a suitable container for disposal. Wash area to prevent slip hazard.
- Avoid discharge into sewage systems, surface or underground waters and the soil.

7. Handling and Storage

Handling: - Ensure adequate ventilation, and wear protective clothing when required
 - Do not drink or eat during handling. Do not smoke in working areas
 - Avoid heating above the decomposition temperature of 290 °C/554 °F
 - Take precautions to avoid electrostatic charges which may be generated during handling
 - Clean and dry piping circuits and equipment before any operations
 - Ensure all equipment is electrically grounded before beginning transfer operations.

Storage: Keep away from heat sources, from flammable, combustible or explosive materials and from incompatible materials (see Section 10). Store in plastic, glass or lined metal containers.

8. Exposure Controls/Personal Protection

Exposure Limits:

Ingredient	ACGIH - TLV -	OSHA - PEL	Occupational Exposure Limits EH40 (UK)
Hydrofluoric Acid (HF) *	0.5 ppm - 8 H TWA	Not available	3 ppm - STEL
Carbonylfluoride (COF ₂) *	2 ppm - 8 H TWA 5 ppm - STEL	Not available	2.5 mg/m ³

* Note: Only the threshold limit values (ACGIH 1998/99), OSHA PELs, and UK OELs of by-products from thermal decomposition are available.

Personal Protection:

Engineering Measures: Apply technical measures to comply with the occupational exposure limits
 Provide working areas with adequate ventilation systems
 Provide eye wash and emergency shower facilities.

Respiratory Protection: Wear self-contained breathing apparatus in cases of thermal decomposition or fire. See also Section 5.

Hand/Skin Protection: Wear rubber gloves and worksuit or rubber apron.

Eye/Face Protection: Wear tightly fitting safety goggles.

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Hygiene Measures: Practice good workplace hygiene. Do not eat, drink or smoke when handling.
Wash hands before eating.

Other/General Protection: None.

9. Physical and Chemical Properties

Appearance and Odour	Colourless, odourless liquid	Boiling point	> 270 / 518	°C/°F
pH (as supplied)	No data available	Freezing Point	No data available	°C/°F
Solubility in Water	Insoluble	Auto Ignition	Not applicable	°C/°F
Volatile Content by Volume	No data available	Flash Point	Not applicable	°C/°F
Specific Gravity	1.90 @ 25 °C / 77 °F			
Vapour Pressure (mbar)	< 5 x 10 ⁻⁵ @20 °C	Vapour Pressure (Torr)	< 3.8 x 10 ⁻⁵ @ 68 °F	

10. Stability and Reactivity

Stability: Stable under normal conditions of use and storage.

Material/Conditions to Avoid: Avoid exposing the product to free flames or temperatures above 290 °C/554 °F. Avoid contact with strong alkaline non-aqueous compounds, Lewis acids (AlCl₃, SbF₅, COF₃) above 100 °C/212 °F and fine powdered magnesium or aluminium or their alloys above 200 °C/392 °F.

Hazardous Decomposition: The product may decompose at temperatures above 290 °C/554 °F with emissions of gaseous hydrogen fluoride and fluorophosgene, which are toxic and corrosive gases.

Hazardous Polymerisation: Hazardous polymerisation will not occur.

11. Toxicological Information

For a comprehensive description for the various toxicological (health) effects which may arise if the user comes into contact with the substance or preparation refer to Section 2 Hazards Identification.

Animal data:

LD50 value (Rat): Perfluorinated polyethers: Oral: >15,000 mg/kg, Dermal: > 5000 mg/kg (rat).

Perfluoropolyethers derivative: Oral: >5,000 mg/kg, Dermal: > 2000 mg/kg (rat).

Carcinogenicity:

The product has no known carcinogenic, mutagenic or reprotoxicity effects

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12. Ecological Information

Ecological injuries are not known or expected under normal use.

Ecotoxicity effects

Acute toxicity

- Fishes, *Brachydanio rerio*, LC50, 96 h, > 360 mg/l (Perfluorinated polyethers)

Remarks: saturated aqueous solution

- *Daphnia magna* (Water flea), EC50, 48 h, > 360 mg/l (Perfluorinated polyethers)

Remarks: saturated aqueous solution

- *Daphnia magna* (Water flea), EC50, 48 h, > 100 mg/l (Perfluoropolyethers derivative).

Mobility

No data available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Other adverse effects

No data available.

13. Disposal Considerations

If recycling is not practicable, dispose of the product and used containers in accordance with all local and national requirements.

Waste product can be incinerated at a licensed disposal plant equipped to burn fluorine compounds. Waste containers can be re-used after thorough washing, or be sent to landfill sites.

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14. Transport Information

This product is not classified as dangerous under transport regulations.

PARAMETER	EUROPEAN	CANADIAN TDG	UNITED STATES DOT
Proper Shipping Name	Not applicable	Not applicable	Not applicable
Hazard Class	Not applicable	Not applicable	Not applicable
Identification Number	Not applicable	Not applicable	Not applicable
Shipping Label	Not applicable	Not applicable	Not applicable

15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with EU Regulation No 1272/2008 (as amended) on the Classification, Labelling and Packaging of Substances and Mixtures.

Classified as dangerous to supply: No

Risk Phrases: Not applicable

Safety Phrases : Not applicable

Symbols : None

United States Regulatory Information

None of the constituent materials of Drynert 25/6 are classified as "hazardous substances" as defined by OSHA Hazard Communication Standard (29 CFR 1910.1200).

Uses of this product are restricted to a lubricant additive. No consumer or spray applications are allowed.

The anti-rust additive (CAS 370097-12-4) is subject to a Low Volume Exemption per the Toxic Substances Control Act (TSCA) regulations in 40 CFR 723.50 (c) (1).

Other materials contained in this product are on the U.S. Toxic Substances Control Act (TSCA).

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION:

This product does not contain toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 and 40 CFR Part 372.

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

Canadian Regulatory Information

WHMIS Classification: Not a controlled product.

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16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Sources of information for this data sheet:

- Solvay Solexis "DRYNERT 25/6" Safety Data Sheet. Ref: FDS/P 19824. Updating: 14/05/2010.
- Solvay Solexis Inc "Fomblin 25/6 DRYNERT" Material Safety Data Sheet, Date Revised: August 15, 2007.

Glossary:

ACGIH - American Conference of Governmental Industrial Hygienists; ANSI - American National Standards Institute; Canadian TDG - Canadian Transportation of Dangerous Goods; CAS - Chemical Abstracts Service; Chemtrec - Chemical Transportation Emergency Center (US); DSL - Domestic Substances List; EH40 (UK) - HSE Guidance Note EH40 Occupational exposure limits; HMIS - Hazardous Material Information Service; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limit; OSHA - Occupational Safety and Health Administration, US department of Labour; PEL - Permissible exposure limit; ppm - Parts Per Million; SARA (Title III) - Superfund Amendments and Reauthorization Act; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; STEL - Short Term Exposure Limit; TLV - threshold limit value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-Weighted Average; WHMIS - Workplace Hazardous Materials Information System; US DOT - US Department of Transportation.

Revisions:

January 2011 - Data Sheet updated to reflect the latest regulatory and supplier safety information.

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