

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : OPTICAL II SUPER FLUID

1. Product and Company Identification

Product name: Optical II Super Fluid
Synonyms: None
Item Numbers: E427-10-000

European Contact Details

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West Sussex, RH10 9LW, England

General enquiries

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US Contact Details

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General enquiries

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24 h Emergency telephone number:

Chemtrec: 1-800-424-9300

2. Composition/Information on Ingredients

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
Potassium Hydroxide	20 - 25	1310-58-3	8	R22, R35
Water	20 - 30	-	Not applicable	Not applicable
Poly (Ethylene Glycol) Monooleate	20 - 30	9004-96-0	Not applicable	R52, R53
Sodium Gluconate	15 - 20	527-07-01	Not applicable	R36

*Hazard class & Risk phrase. These columns are only completed for ingredients which are classified as hazardous under EU Directive (67/548/EEC, 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".

3. Hazards Identification

EMERGENCY OVERVIEW

This odourless, yellow concentrated (undiluted) fluid is corrosive to all tissues.
Prevent all contact with skin and eyes. Do not inhale vapours. Exposure to fire may liberate toxic gases.
For short and long term exposure effects see Section 11 Toxicological data.

Eye Effects: Corrosive. Can damage eyesight/lead to blindness.

Skin Effects: Corrosive. Contact can cause severe burns and may cause allergic skin reactions in very susceptible workers. Irritation may be delayed following contact.

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Ingestion/Oral Effects: Corrosive. Can cause burns to mouth/gastrointestinal burns if ingested.
Inhalation Effects: Corrosive. Can cause tracheal/lung damage. The lungs may become irritated, begin to retain fluid and swell (oedema). This condition is harmful and may be fatal.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

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

4. First Aid Measures

Eyes: Keep eyes wide open and immediately flush with plenty of water. Seek immediate medical attention and ophthalmologic consultation.
Skin: Remove contaminated clothing and immediately wash off with plenty of water. Continue rinsing for at least 15 minutes. Seek medical attention if skin irritation persists.
Ingestion/Oral: Do not induce vomiting or attempt to neutralize. Give 4 to 8 ounces of water or milk to dilute and obtain immediate medical attention. Never give fluids if respiratory compromise is present or the individual is (or may become) unconscious.
Inhalation: Remove to fresh air. 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: Carbon dioxide, foam or dry powder.
Fire and Explosion Hazard: Exposure to fire may liberate toxic gases. Product is not flammable or combustible.
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, and full turnout gear. Wear skin protection adequate to protect against contact with the product.

For Flammability Properties - see Section 9

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6. Accidental Release Measures

Avoid discharge of fluid into the environment. Keep untreated fluid out of drains, sewers and water courses. Prevent contact with skin and eyes. Wear personal protective equipment (see Section 8). Wipe small spills with cloth and place in separate waste container for later disposal. Dyke or absorb larger spills with suitable inert sorbent material (sand, vermiculite etc.). Clean the area of the spill with plenty of water. Dispose as described in Section 13.

7. Handling and Storage

Handling: Keep containers tightly closed. Prevent contact with skin and eyes. Use only with adequate ventilation. Prevent contact with incompatible materials including acids, acid products and various metals (such as aluminium, magnesium, zinc and so on).

Storage: Store in its original container * in a dry, cool well-ventilated area, at a temperature between 5 °C and 20 °C/41 °F and 68 °F.

(* Other appropriate packaging: polyethylene container.)

8. Exposure Controls/Personal Protection

Exposure Limits:

Ingredient	ACGIH - TLV -	OSHA - PEL	Occupational Exposure Limits EH40 (UK)
KOH (potassium hydroxide)	2 mg m ⁻³	NIOSH REL 2 mg m ⁻³	2 mg m ⁻³

Personal Protection:

Engineering Measures: General ventilation is required.

Respiratory Protection: Avoid breathing vapour or spray. In case of insufficient ventilation, wear suitable respiratory equipment.

Hand/Skin Protection: Wear suitable impervious gloves. Wear suitable protective clothing where there is the possibility of splashing.

Eye/Face Protection: Wear face shield/goggles/safety glasses where there is the possibility of splashing.

Hygiene Measures: Practice good workplace hygiene. Do not eat or smoke when handling. Wash hands after handling and before eating. Any clothing that does not provide chemical protection should be changed promptly following splashes, spills, or other contamination.

Other/General Protection: None.

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9. Physical and Chemical Properties

Appearance and Odour	Yellow odourless liquid	Boiling point	No data available	°C/°F
pH dil. (1%) at 25 °C/77 °F	12.8	Freezing Point	No data available	°C/°F
Solubility in Water	100%	Auto Ignition	Non flammable	°C/°F
Volatile Content by Volume	No data available	Flash Point	Non flammable	°C/°F
Specific Gravity	1.38			
Vapour Pressure (mbar)	No data available	Vapour Pressure (Torr)	No data available	

10. Stability and Reactivity

Stability: Stable in normal conditions.

Material/Conditions to Avoid: Acids, flammable liquids and organic halogens. Will evolve hydrogen on contact with various metals (aluminium, magnesium, zinc, and so on), which may lead to explosive mixtures with oxygen. Evolves ammonia on contact with ammonium salts.

Hazardous Decomposition: Exposure to fire may liberate toxic gases.

Hazardous Polymerisation: Will not polymerise.

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 3 Hazards Identification.

Animal data:

LD50 value: No data available.

LC50 value: No data available.

Carcinogenicity:

No data available.

12. Ecological Information

Ecotoxicity: WGK1. The fluid is readily biodegradable according to appropriate OECD test.

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13. Disposal Considerations

Dispose of in accordance with local and national regulations. Do not pour into drains or sewers without suitable pre-treatment.

Diluted solutions can be sent to a water treatment plant after neutralization (pH 6 to 9). Concentrated solutions must be treated as special waste.

The above information applies to the pure uncontaminated fluid only !

14. Transport Information

This product is classified as dangerous under transport regulations.

PARAMETER	EUROPEAN	CANADIAN TDG	UNITED STATES DOT
Proper Shipping Name	Corrosive Liquid, Basic Inorganic N.O.S. (Potassium Hydroxide)	Corrosive Liquid, Basic Inorganic N.O.S. (Potassium Hydroxide)	Corrosive Liquid, Basic Inorganic N.O.S. (Potassium Hydroxide)
Hazard Class	8	8	8
Identification Number	UN 3266	UN 3266	UN 3266
Shipping Label	Corrosive	Corrosive	Corrosive

Packing group II

15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with the Dangerous Substances Directive (67/548/EEC, as amended) and the Preparations Directive (88/379/EEC, as amended), implemented in the UK as the Chemical (Hazard Information and Packing) Regulations 1994 (CHIP, as amended).

Classified as dangerous to supply : Yes

Risk Phrases :	R22	Harmful if swallowed.
	R35	Causes severe burns
	R36	Irritating to eyes.
	R52	Harmful to aquatic organisms.
	R53	May cause long-term adverse effects in the aquatic environment.
Safety Phrases :	S1/2	Keep locked up and out of reach of children.
	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S27	Take off immediately all contaminated clothing.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Symbols : C (corrosive)



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United States Regulatory Information

All materials contained in this product are listed 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.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Canadian Regulatory Information

WHMIS Classification: E

All ingredients in this product are included in the Canadian DSL

Canadian Controlled Products Regulations (CPR): This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Other Regulatory Information

Officially recognised numbers: RTECS #: TT2100000 ; Switzerland OFSP/BAG No. : 681042;

Germany UBA Number : 11950099.

Swiss toxic class: 2

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16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and the EU Safety Data Sheet Directive 91/155/EEC.

Sources of information for this data sheet:

- NGL Cleaning Technology Optical II Super Safety Data Sheet. Revision date: 2003-11-11. Print date: 2004-03-12.

Glossary:

ACGIH - American Conference of Governmental Industrial Hygienists; ANSI - American National Standards Institute; Canadian TDG - Canadian Transportation of Dangerous Goods; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations; Chemtrec - Chemical Transportation Emergency Center (US); CHIP - Chemical (Hazard Information and Packing); CPR - Canadian Controlled Products Regulations; DSL - Domestic Substances List; EH40 (UK) - HSE Guidance Note EH40 Occupational exposure limits; EINECS - European Inventory of Existing Commercial Chemical Substances; EPCRA - Emergency Planning and Community Right-to-Know Act; HMIS - Hazardous Material Information Service; LC - Lethal Concentration; LD - Lethal Dose; MSDS - Material Safety Data Sheet; NFPA - National Fire Protection Association; OECD - Office of Environmental Compliance and Documentation; OFSP/BAG - Office Federal de la Sante Publique/Bundesamt für Gesundheit (Federal Office of Public Health); OSHA - Occupational Safety and Health Administration, US department of Labour; PEL - Permissible exposure limit; RTECS - Registry of Toxic Effects of Chemical Substances; SARA (Title III) - Superfund Amendments and Reauthorization Act; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; TLV - threshold limit value; TSCA - Toxic Substances Control Act Public Law 94-469; WHMIS - Workplace Hazardous Materials Information System; UBA - Umweltbundesamt (German Federal Environment Agency); US DOT - US Department of Transportation; WGK - Wassergefährdungsklasse (German Water Hazard Classification); WHMIS - Workplace Hazardous Materials Information System.

Revisions:

Nov 2007 - Data Sheet updated to reflect the latest supplier safety information.

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