



Manufacturer:
ÅngströmLink™

Product Name:
ÅngströmLink™ AL-2233, Coating Diluent, (1.33) - 480cc

Manufacturer Part Number:
ALS-2233-480CC

▶ Click here for more details on the ÅngströmLink™ AL-2233, Coating Diluent, (1.33) - 480cc

ÅngströmLink™

ALS-2233
Rev B

1

Advanced Polymers for High Tech Applications

SDS # ALS-2233

Safety Data Sheet

SDS #: ALS-2233

Issue Date: 6/4/2015

Revision Date: 5/17/2022

Section 1: Identification

GHS Product Identifier/Name AngstromLink ALS-2233

Other means of identification

Product Code ALS-2233
Other means of identification Not available

Recommended use of the chemical and restrictions on use

Identified Uses Solvent for AL1-2233, AL2-2233, AL5-2233 and AL10-2233, laboratory grade cleaning solvent

Details of the supplier of the Safety Data Sheet

Supplier Address Fiber Optic Center, Inc.
23 Centre Street
New Bedford, MA 02740-6322 USA
Tel: 1-508-992-6464
Fax: 1-508-991-8876

Emergency Telephone

CHEMTREC 1-800-424-9300 (24 hrs)
For product emergencies involving spill, leak, fire exposure or accident please contact CHEMTREC.
For all other inquiries please contact Fiber Optic Center, Inc.™ at 1-800-473-4237

Section 2: Hazard(s) Identification

Emergency Overview:

NFPA : H=1 F=0 I=0

General Information:

Appearance : Liquid
Color : Colorless
Odor : Odorless

Main effects:

This product is biologically inert.
Not hazardous in normal conditions of handling and use.
Ecological injuries are not known or expected under normal use.
Thermal decomposition can lead to release of toxic and corrosive gases.

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SAFETY DATA SHEET (SDS)



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ÅngströmLink™

ALS-2233
Rev B

2

Advanced Polymers for High Tech Applications

SDS # ALS-2233

Potential Health Effects:

Inhalation:

No known effect.

Eye Contact:

Contact with eyes may cause irritation.
Redness

Skin Contact:

Symptoms: Redness, irritation.

Ingestion:

Ingestion may provoke the following symptoms: nausea, vomiting, diarrhea

Other toxicity effects:

See Section 11: Toxicological Information

Environmental Effect:

See Section 12: Ecological Information

Section 3: Composition / Information on Ingredients

Ingredients

Chemical Name	%	Cas#
Perfluoropolyether	100	Privilege

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: First-Aid Measures

Inhalation

Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.
Oxygen or artificial respiration if needed.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes
If eye irritation persists, consult a specialist.

Skin contact

Wash off with soap and water.
If symptoms persist, call a physician.

Ingestion

Drink 1 or 2 glasses of water.
Do NOT induce vomiting.
If symptoms persist, call a physician.

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ALS-2233
Rev B

3

Advanced Polymers for High Tech Applications

SDS # ALS-2233

Section 5: Fire-Fighting Measures**Suitable extinguishing media**

- Water
- Powder
- Foam
- Dry chemical
- Carbon dioxide (CO₂)

Extinguishing media which shall not be used for safety reasons

- None

Special exposure hazards in a fire

- The product is not flammable
- Not explosive
- In case of fire hazardous decomposition products may be produced such as gaseous hydrogen fluoride (HF), Fluorophosgene

Hazardous decomposition products

- Gaseous hydrogen fluoride (HF).
- Fluorophosgene

Special protective equipment for fire-fighters

- Wear self-contained breathing apparatus and protective suit.
- When intervention in close proximity wear acid resistant over suit.

Other information

- 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.

Section 6: Accidental Release Measures**Personal precautions**

- Ensure adequate ventilation.
- Material can create slippery conditions
- Sweep up to prevent slipping hazard.
- Prevent further leakage or spillage if safe to do so.
- Keep away from open flames, hot surfaces and sources of ignition.
- Refer to protective measures listed in Sections 7 and 8.

Environment precautions

- Should not be released into the environment.
- The product should not be allowed to enter drains, water courses or the soil.
- In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal State/Provincial and local laws and regulations.
- Do not flush into surface water or sanitary sewer system.

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ALS-2233
Rev B

4

Advanced Polymers for High Tech Applications

SDS # ALS-2233

Methods for cleaning up

- Soak up with inert absorbent material.
- Suitable material for picking up:
 - Dry sand
 - Earth
- Shovel into suitable container for disposal.

Section 7: Handling and Storage

Handling

- No special handling advice required.
- Ensure adequate ventilation.
- Use personal protective equipment.
- Keep away from heat and sources of ignition.
- To avoid thermal decomposition, do not overheat.
- Take measure to prevent the buildup of electrostatic charge.
- Clean and dry piping circuits and equipment before any operations.
- Ensure all equipment is electrically grounded before beginning transfer operations.

Storage

- No special storage conditions required.
- Keep away from heat and sources of ignition.
- Keep in properly labeled containers.
- Keep away from combustible material.
- Keep away from incompatible products.

Packaging material

- Glass
- Plastic material

Other Information

- Provide electrical equipment well protected against corrosion.
- Refer to protective measures listed in Sections 7 and 8.

Section 8: Exposure Controls / Personal Protection

Exposure Limit Values

Remarks: Threshold limit values of by-products from thermal decomposition

Hydrogen fluoride anhydrous

US. ACGIH Threshold Limit Values 2009

Time weighted average = 0.5 ppm

Remarks: as F

US. ACGIH Threshold Limit Values 2009

Ceiling Limit Value = 2 ppm

Remarks: as F

US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989

Time weighted average = 3 ppm

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 ALS-2233
Rev B

5

Advanced Polymers for High Tech Applications

SDS # ALS-2233

Remarks: as F

US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989

Short term exposure limit = 6 ppm

Remarks: as F

US. ACGIH Threshold Limit Values 2009

Remarks: as F, can be absorbed through skin

US. OSHA Table Z-2 (29 CFR 1910.1000) 02 2006

Time weighted average = 3 ppm

US. OSHA Table Z-1 Limits of Air Contaminants (29 CFR 1910.1000) 02 2006Permissible exposure limit = 2.5 mg/m³

Remarks: as F

US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A 06 2008

Time weighted average = 3 ppm

Remarks: as F

US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A 06 2008

Short term exposure limit = 6 ppm

Remarks: as F

Carbonyl difluorideUS. ACGIH Threshold Limit Values 2009

Time weighted average = 2 ppm

US. ACGIH Threshold Limit Values 2009

Short term exposure limit = 5 ppm

US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989

Time weighted average = 2 ppm

Time weighted average = 5 mg/m³US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989

Short term exposure limit = 5 ppm

Short term exposure limit = 15 mg/m³US. OSHA Table Z-2 (29 CFR 1910.1000) 02 2006Time weighted average = 2.5 mg/m³

Remarks: Dust

US. OSHA Table Z-1 Limits of Air Contaminants (29 CFR 1910.1000) 02 2006Permissible exposure limit = 2.5 mg/m³

Remarks: as F

US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A 06 2008

Time weighted average = 2 ppm

Time weighted average = 5 mg/m³US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A 06 2008

Short term exposure limit = 5 ppm

Short term exposure limit = 15 mg/m³

Remarks: as F

ACGIH and TLV are registered trademarks of the American Conference of Governmental Industrial Hygienists. No specific TLV STEL (Short Term Exposure Level) has been set. Excursions in exposure level may exceed 3 times the TLV TWA for no more than a total of 30 minutes during a work day and under no circumstances should they exceed 5 times the TLV TWA.

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ALS-2233
Rev B

6

Advanced Polymers for High Tech Applications

SDS # ALS-2233

Engineering controls

Provide local ventilation appropriate to the product decomposition risk (see Section 10).
Refer to protective measures listed in Section 7 and 8.
Apply technical measures to comply with the occupational exposure limits.
For additional information, consult the current edition of The Guide to the Safe Handling of Fluoropolymers published by the Society of Plastics Industry, Inc. (SPI) Fluoropolymer Division.

Personal protective equipment

Respiratory protection

No personal respiratory protective equipment normally required.
Use respirator when performing operations involving potential exposure to vapor of the product.
Use only respiratory protection that conforms to international/national standards.
In case of decomposition (see Section 10), wear a suitable respirator with a combination filter for organic vapor and particulate.
Use NIOSH approved respiratory protection.
Comply with OSHA respiratory protection requirements.

Hand protection

Latex, rubber or plastic gloves
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection

Safety glasses with side shields.
If splashes are likely to occur, wear tightly fitting safety goggles.
Protective goggles/face shield, if appropriate.

Skin and body protection

Long sleeved clothing

Hygiene measures

Ensure that eyewash stations and safety showers are close to the workstation location.
When using the product, do not eat, drink or smoke.
Wash hands before breaks and at the end of the work day.
Handle in accordance with good industrial hygiene and safety practice.

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ALS-2233
Rev B

7

Advanced Polymers for High Tech Applications

SDS # ALS-2233

Section 9: Physical and Chemical Properties

General Information

Appearance : liquid
Color : colorless
Odor : odorless

Important health, safety and environmental information

Boiling point/boiling range : 80 – 135°C (176 – 275°F)
Flash point : the product is not flammable
Flammability : the product is not flammable
Explosive properties : the product is not explosive
Oxidizing properties : non-oxidizer
Vapor pressure : approx. 10.5 – 140 hPa
Relative density/Density : 1.69 – 1.72 g/cm3 (at 25°C (77°F))
Solubilities : Water: insoluble
Fluorinated solvents: soluble
Viscosity : approx. 0.95 – 1.7 mPa.s

Other data

Melting point/range : not applicable
Decomposition temperature: >290°C (554 °F)

Section 10: Stability and Reactivity

Stability

Stable under recommended storage conditions.
Metals promote and lower decomposition temperature.
In presence of titanium and its alloys the decomposition temperature decreases to 260°C.

Conditions to avoid

To avoid thermal decomposition, do not overheat.
Keep away from flames and sparks.
Keep at temperature not exceeding 290°C (554°F)

Materials to avoid

Aluminum and magnesium in powder form above 200°C.
Lewis acids (Friedel-Crafts) above 100°C.
Non-aqueous alkalis

Hazardous decomposition products

Gaseous hydrogen fluoride (HF), Fluorophosgene

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ALS-2233
Rev B

8

Advanced Polymers for High Tech Applications

SDS # ALS-2233

Section 11: Toxicological Information

Toxicological data

Acute oral toxicity

LD50, rat, > 5,000 mg/kg

Acute inhalation toxicity

LD50, rat, >1,826 mg/l

Acute dermal irritation/corrosion

LD50, rat, >2,000 mg/kg

Skin irritation

Rabbit, no skin irritation

Eye irritation

Rabbit, no eye irritation

Sensitization

Guinea pig, did not cause sensitization on laboratory animals

Chronic toxicity

Oral, 28-day, rat, NOEL:>1000mg/kg/day (remark: sub-acute toxicity)

Genetic toxicity in vitro

Not mutagenic in Ames Test

Chromosome aberration test in vitro, negative

Remarks

Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.

The product is biologically inert.

Thermal decomposition can lead to release of toxic and corrosive gases.

Exposure to decomposition products causes severe irritation of eyes, skin and mucous membranes.

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ALS-2233
Rev B

9

Advanced Polymers for High Tech Applications

SDS # ALS-2233

Section 12: Ecological Information

Ecotoxicity effects

Chronic toxicity	:	No data available
Mobility	:	No data available
Persistence and degradability:	:	Abiotic degradation – no data available Biodegradation – no data available
Bioaccumulative potential	:	No data available
Other adverse effects	:	No data available
Remarks	:	Ecological injuries are not known or expected under normal use

Section 13: Disposal Considerations

Waste from residues/unused products

Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations.

Waste characterizations and compliance with applicable laws and regulations are the responsibility of the waste generator.

Can be incinerated, when in compliance with local regulations.

The incinerator must be equipped with a system for the neutralization or recovery of HF.

Packaging treatment

Empty containers can be landfilled, when in accordance with the local regulations.

RCRA Hazardous Waste

List RCRA Hazardous Waste (40 CFR 302) - No

Section 14: Transport Information

Sea (IMO/IMDG)	:	not regulated
Air (ICAO/IATA)	:	not regulated
U.S. Dept of Transportation	:	not regulated
Canadian Transportation of Dangerous Good:	:	not regulated

It is recommended that ERG Guide number 111 be used for all non-regulated material.

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ALS-2233
Rev B

10

Advanced Polymers for High Tech Applications

SDS # ALS-2233

Section 15: Regulatory Information

USA. Toxic Substance Control Act (TSCA)	In compliance with inventory.
Australia. Inventory of Chemical Substances (AICS)	In compliance with the inventory.
Canada. Domestic Substances List (NDSL)	In compliance with the inventory.
China. Inventory of Existing Chemical Substances (IECS)	In compliance with the inventory.
Korea. Existing Chemicals Inventory (KECI (KR))	In compliance with the inventory.
Japan. Inventory of Existing & New Chemical Substance (ENCS)	In compliance with the inventory.
New Zealand Inventory (in preparation) (NZ)	In compliance with the inventory.
Philippine. Inventory of Chemicals and Chemical Substances (PICCS)	In compliance with the inventory.
EU. List of existing chemical substances (EINECS)	Not applicable. Product falls under the EU-polymer Definition.

Other regulations

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)	Not regulated.
SARA Hazard Designation (SARA 311.312)	
Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Reactivity Hazard	No
Reactivity Hazard	No
Sudden Release of Pressure Hazard	No
US.EPA Emergency Planning and Community Right-to-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) – Supplier Notification Required	Not regulated.
US. EPA CERCLA Hazardous Substances (40 CFR 302)	Not regulated.
US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)	Not regulated.
US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)	Not regulated.
US. California Safe Drinking Water & Toxic Enforcement Act	This product does not contain any

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ALS-2233
Rev B

11

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SDS # ALS-2233

(Proposition 65)

chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

OSHA Hazard communication standard

This material is non-hazardous as defined by the American OSHA Hazard Communication Standard.

Classification and labeling

Canada. Canadian Environmental Protection Act (DEPA). WHMIS Ingredient Disclosure List (Can. Gaz., Part II, Vol. 122, No. 2)

NOCONTPROD – does not contain a controlled product

Section 16: Other Information

Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

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