

SECTION 1: IDENTIFICATION

1.1 Product identifier

Product Name

Pretreat A

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses

For research use only. Not for diagnostic use.

1.3 Details of the supplier of the data sheet

Company

Molecular Instruments, Inc.
5015 Eagle Rock Blvd Suite 301
Los Angeles, CA 90041
+1 626 210 2600

Telephone

SECTION 2. HAZARDS IDENTIFICATION

This safety data sheet complies with the requirements of Regulation EC 1907/2006.

2.1 Classification of the substance or mixture**GHS Classification****Health Hazards**

Flammable liquid	Category 3
Skin irritation	Category 2
Eye irritation	Category 2
Skin sensitivity	Category 1
Short-term (acute) aquatic hazard	Category 2
Long-term (chronic) aquatic hazard	Category 2

2.2 Label elements including precautionary statements**Signal Word****Hazard Statements**H226
H315
H317
H319
H401
H411**Warning**

Flammable liquid and vapor.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Precautionary Statements

P210

Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

P233

Keep container tightly closed.



Pretreat A Safety Data Sheet

P240	Ground/Bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilating, and lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing vapors, mist, or spray.
P264	Wash hands, forearms, and other exposed areas thoroughly after handling.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, and eye protection
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see section 4).
P321	If skin irritation or rash occurs: Get medical advice/attention.
P333+P313	If eye irritation persists: Get medical advice/attention.
P337+P313	Take off contaminated clothing and wash it before reuse.
P362+P364	In case of fire: Use appropriate media (see section 5) to extinguish.
P370+P378	Collect spillage.
P391	Store in a well-ventilated place. Keep cool.
P403+P235	Dispose of contents/container in accordance with local, regional, national, and international regulations.
P501	

2.3 Other hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical Characterization

Mixtures.

3.2 Dangerous Components

Chemical Name	CAS No	Weight %
Diethylene glycol monobutyl ether	112-34-5	40
D-Limonene	5989-27-5	20



SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General information

If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation

Move to fresh air. Consult a physician if necessary. If not breathing, give artificial respiration.

Ingestion

Rinse mouth and drink plenty of water. Consult a physician. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Call a physician or poison control center immediately.

Skin Contact

Rinse immediately with plenty of water for at least 15 minutes. Take off all contaminated clothing. Get medical attention if symptoms occur.

Eye Contact

Rinse immediately with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Remove contact lenses if present. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in Section 2.2 and/or in Section 11.

4.3 Indication of any immediate medical attention and special treatment needed.

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do not use high volume water jet.

5.2 Special hazards

Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for fire fighters

Wear self-contained breathing apparatus and protective suit.

5.4 Further information

Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.



SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors and/or aerosols. Do not use steel or aluminum tools or equipment. Avoid substance contact. Avoid dust formation. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental Precautions

Should not be released into the environment. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and clean up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see Sections 7 and 10). Take up with liquid-absorbent and neutralizing material. Dispose of properly. Avoid dust formation. Clean up affected area.

6.4 Reference to other sections

Wear personal protective equipment as described in Section 8 of the safety data sheet.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Provide good ventilation in the process area. Always wear recommended personal protective equipment. Avoid contact with skin, eyes, and clothing.

7.2 Conditions for safe storage, including any incompatibles

Store at 2-8°C under sterile conditions. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from food and drink.

7.3 Specific end use(s)

For research use only.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Workplace Exposure Limits (WEL)

Chemical Name	Cas No	Value	Control Parameters	Basis
Diethylene glycol monobutyl ether	112-34-5	TWA	10 ppm	ACGIH
D-Limonene	5989-27-5	TWA	30 ppm	AIHA

8.2 Exposure controls

Personal Protective Equipment

Wear protective gloves/protective clothing and eye/face protection. Only wear fitting, comfortable, and clean protective clothing.



Respiratory Protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Hand Protection

Tested protective gloves are to be worn:
DIN-/EN-Norms: EN ISO 374.

Eye Protection

Tightly sealed safety glasses.

Skin and Body Protection

Wear suitable protective clothing.

Environmental exposure controls

Refer to Section 6. No further action is necessary.

Environmental Exposure Controls

Should not be released in the environment. Prevent product from entering drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: Liquid.

9.2 Other information

No data available.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Reacts violently with strong oxidizers. Increased risk of fire or explosion.

10.2 Stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Exposure to light and heat.

10.5 Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

10.6 Hazardous decomposition products

Under conditions of fire this material may produce: Oxides of carbon.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicological information

Acute Toxicity

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LD50 (inhalation, rat/mouse)
Diethylene glycol monobutyl ether	5660 mg/kg	2700 mg/kg	-

D-Limonene	4400 mg/kg	> 5 g/kg	-
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Principle Routes of exposure
Potential Health Effects

Inhalation	May be harmful if inhaled.
Ingestion	May be harmful if swallowed.
Skin contact	Frequently or prolonged contact with skin may cause dermal irritation.
Eye contact	May cause eye irritation in susceptible persons.
Carcinogenetic effects	None.
Mutagenic effects	No data available.
Reproductive toxicity	No data available.
Sensitization	No data available.
Target organ effects	No data available.
Other adverse effect	No data available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data
Diethylene glycol monobutyl ether	-	LC50: >100 mg/L (48 h) (D. magna)	LC50: 1300 mg/L (96 h) (L. macrochirus)
D-Limonene	-	LC50: 0.421 mg/L (D. magna)	LC50: 0.619 (0.619-0.796) mg/L (96 h) (P. promelas) LC50: 35 mg/L (96 h) (O. mykiss)

12.2 Persistence and degradability

May cause long-term adverse effects in the environment.

12.3 Bioaccumulation potential

No data available.

12.4 Mobility in soil

Absorbs into the soil.

12.5 Other adverse effects

No data available.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Avoid release into the environment. Disposal of contents and containers must comply with all requirements of local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.



SECTION 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not dangerous goods. Not regulated by transport regulations.

14.1 UN number	Not applicable
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not applicable
14.4 Packaging group	Not applicable
14.5 Environmental hazards	Not applicable

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

TSCA

Chemical Name	CAS No	US TSCA Inventory Listing
Diethylene glycol monobutyl ether	112-34-5	X
D-Limonene	5989-27-5	X

US Federal Regulations

SARA 311/312

Health hazard: Respiratory or skin sensitization, skin corrosion or irritation, and serious eye damage or eye irritation.

Physical hazard: Flammable (gases, aerosols, liquids, or solids)

US State Regulations

Neither this product nor its chemical components appear on any US state lists, or its chemical components are not required to be disclosed.

Clean Air Act

This product does not contain any hazardous air pollutants, as defined by the US Clean Air Act.

Clean Water Act

This product does not contain any hazardous substances listed under the US Clean Water Act.

15.2 Chemical safety assessment

No data available.



MOLECULAR INSTRUMENTS

Pretreat A Safety Data Sheet

SECTION 16. OTHER INFORMATION

Disclaimer

The above information is believed to be correct but shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since Molecular Instruments, Inc. cannot control the actual methods, volumes, or conditions of use, Molecular Instruments, Inc. shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. The information in this safety data sheet (SDS) does not constitute a warranty, expressed or implied, including any implied warranty of merchantability or fitness for any particular purpose. See www.hcrimaging.com/legal/terms for our terms of sale.