

Designer Molecules, Inc.

Safety Data Sheet

Product: A-284
MSDS ID: A6220

Revised Date: 01/02/25
Replaces Date: 04/24/23

1. General Information

Product Code: A6220
Trade Name(s): A-284
Description/Use: Aliphatic Ester
Recommended Use: Plasticizer
Restrictions: None identified

Company: Designer Molecules, Inc.
10080 Willow Creek Rd.
San Diego, CA 92131
Telephone: 858-348-1122

Emergency phone number (spill, leak, fire, exposure or accident):
US Domestic (800) 535-5053 (INFOTRAC) Includes Canada and Mexico
International +1 (352) 323-3500
China Specific (86) 400-120-0761
Germany Specific (49) 0800-181-2924
Australia Specific (61) 1-300-366-961

2. Hazards Identification

EMERGENCY OVERVIEW:

OSHA Hazards:

Harmful by ingestion. Harmful by skin absorption, Irritant.

Other hazards which do not result in classification:

Possible sensitizer.

GHS Classification:

Acute toxicity, Oral (Category 4)
Acute toxicity, Dermal (Category 4)
Eye Irritation (Category 2B)

GHS Label Elements, including precautionary statements:



Signal Word: **Warning**

H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H320: Serious eye irritation.

P264: Wash thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P280c: Wear protective gloves/protective clothing.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P363: Wash contaminated clothing before reuse.
P280d: Wear protective gloves.

Designer Molecules, Inc.

Safety Data Sheet

Product: A-284
MSDS ID: A6220

Revised Date: 01/02/25
Replaces Date: 04/24/23

P332+P313: If skin irritation occurs: Get medical advice/attention.
P362: Take off contaminated clothing and wash before reuse.
P337+P313: If eye irritation occurs: Get medical advice/attention.

For additional information on toxicity, please refer to Section 11.

3. Composition Information

Common Name & Synonyms: A6220, A-284

CHEMICAL NAME	CAS#	CONCENTRATION
1,4-Cyclohexanedicarboxylic acid, 1,4-dibutyl ester	93158-39-5	>95%

4. First Aid Measures

SWALLOWING: Do not induce vomiting. Wash out mouth with water provided the person is fully conscious. Get immediate medical attention.
SKIN CONTACT: Wash area with soap and water. Remove contaminated clothing and shoes. Wash or clean before reuse.
INHALATION: Remove person to fresh air. If breathing has stopped, perform artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
EYE CONTACT: Flush with water for 15 minutes. Get immediate medical attention.

NOTES TO PHYSICIAN:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire and Explosion Hazard Data

FLASH POINT (method): 168°C, (closed cup)
AUTOIGNITION: Not determined
EXTINGUISHER METHOD: CO₂, foam, dry chemical
SPECIAL FIRE-FIGHTING PROCEDURES:

Fire fighters should wear NIOSH/MSHA approved pressure demand self-contained breathing apparatus. Decontaminate or discard any clothing that may contain chemical residues.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None.

6. Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Promptly absorb spill. Remove sources of ignition. Cover drains to prevent entry into waterways. Wear personal protective equipment (clothing and gloves) when handling spilled materials.

PERSONAL PRECAUTIONS:

Wear suitable NIOSH-approved protective equipment.

ENVIRONMENTAL PRECAUTIONS:

Estimated to be toxic to aquatic life. Avoid runoff to waterways and sewers.

Designer Molecules, Inc.

Safety Data Sheet

Product: A-284
MSDS ID: A6220

Revised Date: 01/02/25
Replaces Date: 04/24/23

7. Handling and Storage

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED:

For small amounts, collect on disposable wipes. For large amounts, absorb on sand or vermiculite. Wipe off and dispose of into proper waste disposal containers.

WASTE DISPOSAL METHODS:

Dissolve or mix material with proper solvent and incinerate.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Material is generally stable. Keep away from open flames. Store at room temperature.

OTHER PRECAUTIONS AND/OR SPECIAL HAZARDS:

None.

8. Exposure Controls and Personal Protection Measures

ENGINEERING CONTROLS

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below permissible exposure limits.

EXPOSURE LIMITS

Chemical	ACGIH	NIOSH	OSHA- Final PELs
CASRN: 93158-39-5	none listed	none listed	none listed

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION (SPECIFY TYPE):

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

SKIN:

Wear appropriate protective gloves and clothing to prevent skin exposure.

CLOTHING:

Wear appropriate protective clothing to prevent skin exposure.

EYE PROTECTION:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN 166.

9. Physical / Chemical Characteristics

APPEARANCE:

Physical State: Liquid (low viscosity)
Color: Light yellow to colorless
Odor: None detected

OTHER PROPERTIES:

Upper/Lower flammability: Not determined
pH: Not applicable
Molecular Weight: 284.4 Daltons
Boiling Point: Not determined
Melting Point: Not determined
Density: 0.998 g/cc
Vapor Pressure: 0.00054 mm Hg @ 25°C (est.)
Vapor Density (Air-1): Heavier than air
Solubility in water: 0.73 mg/L @ 25°C (est.)
Evaporation rate (BuAc=1): <1
Percent volatile (weight): <1
Log Kow: 5.05 (est.)

Designer Molecules, Inc.

Safety Data Sheet

Product: A-284
MSDS ID: A6220

Revised Date: 01/02/25
Replaces Date: 04/24/23

10. Stability and Reactivity

STABILITY: Stable
CONDITIONS TO AVOID: Open flames, high temperatures
INCOMPATIBLE MATERIALS: Strong acids or bases; strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide (CO₂), carbon monoxide (CO)
HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: Open flames; strong oxidizing agents

11. Toxicological Information

Toxicological testing has not been performed on this product.

CARCINOGEN STATUS: 93158-39-5: not listed by ACGIH, IARC, NTP or CA Prop 65
EPIDEMIOLOGY: No information found
TERATOGENICITY: No information found
REPRODUCTIVE EFFECTS: No information found
MUTAGENICITY: No information found
NEUROTOXICITY: No information found
ECOTOXICITY: No data available
ENVIRONMENTAL: No data available
PHYSICAL: No data available

12. Ecological Information

ELIMINATION (persistence and degradability):

Biodegradability: Estimated to be not persistent in the environment

AQUATIC TOXICITY:

Acute toxicity to fish: Estimated to be chronically toxic to fish

Acute toxicity to

plants: Not determined

Microorganisms: Not determined.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Disposal should be in accordance with local, state or national legislation.

EMPTY CONTAINER WARNINGS: Empty containers may contain product residue, follow MSDS and label warnings even after they have been emptied.

14. Transport Information

Not a hazardous material for transportation.

US DOT REGULATIONS:

NON-BULK Proper Shipping Name: Not regulated

BULK Proper Shipping Name: Not regulated

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized safety officer. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Designer Molecules, Inc.

Safety Data Sheet

Product: A-284
MSDS ID: A6220

Revised Date: 01/02/25
Replaces Date: 04/24/23

15. Regulatory Information

CA PROPOSITION 65: This material does not contain any chemicals known to the State of California to cause cancer or reproductive defects.

TSCA INVENTORY STATUS: Listed.

TSCA 12(b) EXPORT NOTIFICATION: This material does not contain 12(b) regulated chemicals.

SARA 311/312 HAZARD CLASS: There are no known hazards associated with this material.

EINECS IDENTIFICATION: This material is not listed on EINECS.

HMIS RATINGS:

Health:	<u>2</u>
Flammability:	<u>1</u>
Reactivity:	<u>0</u>
Personal Protection:	<u>B</u>

16. Other Information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgments of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. While that data contained herein is factual, it should not be taken as warranty or representation for which the company assumes legal responsibility. It is offered solely for your consideration, investigation and verification. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.