

Afatinib (BIBW2992) SDS | MSDS

1.PRODUCT AND COMPANY IDENTIFICATION

Product identifier

- **Product Name:** Afatinib (BIBW2992)
- **Catalog Number:** S1011
- **CAS Number:** 850140-72-6
- **IUPAC Name:** (S,E)-N-(4-(3-chloro-4-fluorophenylamino)-7-(tetrahydrofuran-3-yloxy)quinazolin-6-yl)-4-(dimethylamino)but-2-enamide

Relevant identified uses and uses advised against

- **Identified uses:** For research and development use only; laboratory chemicals; manufacture of substances.
- **Uses advised against:** Not for pharmaceutical, household, or other unapproved uses.

Details of the supplier

- **Company :** Selleck Chemicals
- **TollFree :** +1 877 796-6397
- **Tel :** +1 832 582-8158
- **Fax :** +1 832 582-8590

Emergency telephone number

- **Emergency phone #:** +1 832 582-8158

2. HAZARDS IDENTIFICATION

Pictogram:



GHS Classification:

- Acute toxicity, Oral (Category 4)
- Eye irritation (Category 2A)
- Specific target organ toxicity - repeated exposure (Category 2: Kidney, Skin)

Signal Word: Warning

Hazard Statements:

- H302: Harmful if swallowed.
- H319: Causes serious eye irritation.
- H373: May cause damage to organs (Kidney, Skin) through prolonged or repeated exposure.

Precautionary Statements:

- **Prevention:** Do not breathe powder/fume/gas/mist/vapors/spray. Wash skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Wear eye protection/face protection.
- **Response:** IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention if you feel unwell. If eye irritation persists: Get medical advice/attention.
- **Disposal:** Dispose of contents/container to an approved waste disposal plant.

Other Hazards:

The substance is physiologically highly active and must be handled with the care required for hazardous materials.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Substance

Components:

- **Chemical Name:** (S,E)-N-(4-(3-chloro-4-fluorophenylamino)-7-(tetrahydrofuran-3-yloxy)quinazolin-6-yl)-4-(dimethylamino)but-2-enamide
- **CAS-No.:** 850140-72-6
- **Concentration:** >= 90 - <= 100%

4. FIRST AID MEASURES

General Advice: Show this safety data sheet to the attending physician.

If Inhaled: Move person to fresh air. Consult a physician.

In Case of Skin Contact: Take off contaminated clothing immediately. Rinse skin with water/shower. Consult a physician. First treatment with calcium gluconate paste is recommended.

In Case of Eye Contact: Rinse thoroughly with plenty of water for several minutes. Remove contact lenses. Consult an ophthalmologist.

If Swallowed: Immediately make the victim drink water (maximum of two glasses). Consult a physician.

Most Important Symptoms and Effects: The most important known symptoms and effects are described in the labeling (Section 2) and/or Section 11.

Note to Physician: Hydrofluoric (HF) acid burns require immediate specialized treatment. After decontamination with water, damage may continue due to fluoride ion penetration. Treatment should focus on binding the fluoride ion (e.g., 2.5% calcium gluconate gel for skin or oral administration of milk/calcium carbonate for ingestion). Monitor for hypocalcemia, hypomagnesemia, and cardiac arrhythmias.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Water, Foam, Carbon dioxide (CO₂), Dry powder.

Unsuitable Extinguishing Media: No limitations of extinguishing agents are given for this substance.

Specific Hazards: Combustible. Development of hazardous combustion gases or vapors (Carbon oxides, Nitrogen oxides, Hydrogen chloride gas, Hydrogen fluoride) is possible in the event of fire.

Special Protective Equipment for Firefighters: Stay in the danger area only with self-contained breathing apparatus. Prevent skin contact by maintaining a safe distance or wearing suitable protective clothing.

Further Information: Suppress gases/vapors/mists with water spray. Prevent fire extinguishing water from contaminating surface or ground water systems.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid inhalation of powder. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area and consult an expert. For personal protection, see Section 8.

Environmental Precautions: Do not let the product enter drains.

Methods and Materials for Containment and Cleaning Up: Cover drains. Collect, bind, and pump off spills. Observe material restrictions. Take up dry and dispose of properly. Clean affected area and avoid the generation of powder.

7. HANDLING AND STORAGE

Advice on Safe Handling: Work under a hood. Do not inhale the substance or mixture.

Conditions for Safe Storage: Keep container tightly closed in a dry place.

Storage Class: 11 (Combustible Solids)

Recommended Storage Temperature: 36 - 46 °F / 2 - 8 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: Contains no substances with occupational exposure limit values.

Engineering Measures: N/A

Personal Protective Equipment:

- **Respiratory Protection:** Required when powder is generated. Recommended filter type P3 (standard DIN EN 143).
- **Hand Protection:** Nitrile rubber gloves (0.11 mm thickness, KCL 741 Dermatril L) with a breakthrough time of 480 minutes for both full and splash contact.
- **Eye Protection:** Safety glasses tested and approved under standards such as NIOSH (US) or EN 166 (EU).
- **Skin and Body Protection:** Protective clothing.

Hygiene Measures: Change contaminated clothing. Preventive skin protection is recommended. Wash hands after working with the substance.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: powder

Color: N/A

Odor: N/A

Odor Threshold: N/A

pH: N/A

Melting Point: N/A

Boiling Point: N/A

Flash Point: Not applicable

Evaporation Rate: N/A

Flammability: N/A

Vapor Pressure: N/A

Relative Vapor Density: N/A

Relative Density: N/A

Density: N/A

Water Solubility: Slightly soluble (68 °F / 20 °C)

Partition Coefficient (n-octanol/water): N/A

Autoignition Temperature: N/A

Decomposition Temperature: N/A

Viscosity: N/A

Explosive Properties: N/A

Oxidizing Properties: None

Molecular Weight: 485.94 g/mol

10. STABILITY AND REACTIVITY

Reactivity: Flammable organic substances in fine distribution may have a powder explosion potential when whirled up.

Chemical Stability: Chemically stable under standard ambient conditions (room temperature).

Possibility of Hazardous Reactions: N/A.

Conditions to Avoid: No information available.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: In the event of fire, see Section 5.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: N/A for oral, inhalation, or dermal routes.

Skin Corrosion/Irritation: Rabbit - No skin irritation.

Serious Eye Damage/Eye Irritation: Rabbit - Irritation to eyes, reversing within 21 days (OECD Test Guideline 405).

Respiratory or Skin Sensitization: N/A.

Germ Cell Mutagenicity: N/A.

Carcinogenicity: No ingredient present at levels $\geq 0.1\%$ is identified as a probable, possible, or confirmed human carcinogen by IARC, NTP, or OSHA.

Reproductive Toxicity: N/A.

STOT - Single Exposure: N/A.

STOT - Repeated Exposure: May cause damage to organs (Kidney, Skin) through prolonged or repeated exposure.

Aspiration Hazard: N/A.

Additional Information: Fluoride ion can reduce serum calcium levels, potentially causing fatal hypocalcemia. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

• **Toxicity to microorganisms:** EC50 (activated sludge): 143 mg/l; Exposure time: 3 h. (Data for (2E)-N-[4-[(3-Chloro-4-fluorophenyl)amino]-7-[[[(3S)-tetrahydro-3-furanyl]oxy]-6-quinazoliny]-4-(dimethylamino)-2-bute namide).

Persistence and Degradability: N/A.

Bioaccumulative Potential: N/A.

Mobility in Soil: N/A.

Other Adverse Effects: N/A.

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers. Do not mix with other waste. Handle uncleaned containers as the product itself.

14. TRANSPORT INFORMATION

IATA-DGR: Not regulated as a dangerous good.

IMDG-Code: Not regulated as a dangerous good.

49 CFR Road: Not regulated as a dangerous good.

Poison Inhalation Hazard: No.

Special Precautions for User: Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical

components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

The ingredients of this product are reported in the following inventories:

TSCA : Product contains substance(s) not listed on TSCA inventory.

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

16. OTHER INFORMATION

Revision Date: 2026/07/29

Further Information: The information provided is believed to be correct but is not exhaustive and should be used only as a guideline based on current knowledge. It does not represent a guarantee of the properties of the product. Selleck Chemicals Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.