

ERIVEDGE(R) Capsules (150 mg)

Version 2.0 Revision Date: 01-29-2024 Date of last issue: 10-14-2021
Date of first issue: 12-04-2015

SECTION 1. IDENTIFICATION

Product name : ERIVEDGE(R) Capsules (150 mg)

Product code : RO545-0815/F03

Common name(s), syno- : ERIVEDGE Capsules 150 mg
nym(s) of the substance

Manufacturer or supplier's details

Company name of supplier : Genentech, Inc.

Address : 1 DNA Way
South San Francisco, CA 94080
USA

Telephone : 001-(650) 225-1000

E-mail address : info.sds@roche.com

Emergency telephone

Emergency telephone num- : US Chemtrec phone (800)-424-9300
ber

Recommended use of the chemical and restrictions on use

Recommended use : Formulated pharmaceutical active substance

Restrictions on use : For professional users only.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Carcinogenicity : Category 1A

Reproductive toxicity : Category 1B

Specific target organ toxicity : Category 2
- repeated exposure

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H350 May cause cancer.
H360FD May damage fertility. May damage the unborn child.
H373 May cause damage to organs through prolonged or re-
peated exposure.

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Precautionary Statements

- Prevention:**
 P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response:**
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- Storage:**
 P405 Store locked up.
- Disposal:**
 P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

| Chemical name | CAS-No. | Concentration (% w/w) |
|---|-------------|-----------------------|
| Vismodegib | 879085-55-9 | 35.29 |
| Cellulose | 9004-34-6 | 20.54 |
| Gelatins | 9000-70-8 | 17.51 |
| Lactose-1-Hydrate | 64044-51-5 | 16.82 |
| Starch, carboxymethyl ether, sodium salt | 9063-38-1 | 4.12 |
| 2-Pyrrolidinone, 1-ethenyl-, homopolymer | 9003-39-8 | 2.47 |
| Sulfuric acid monododecyl ester sodium salt (1:1) | 151-21-3 | 1.65 |
| Talc (Mg ₃ H ₂ (SiO ₃) ₄) | 14807-96-6 | 0.82 |
| Octadecanoic acid, magnesium salt (2:1) | 557-04-0 | 0.4 |
| Titanium oxide (TiO ₂) | 13463-67-7 | 0.35 |
| Iron oxide (Fe ₃ O ₄) | 1317-61-9 | 0.02 |
| Iron oxide (Fe ₂ O ₃) | 1309-37-1 | 0.01 |

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
 Show this material safety data sheet to the doctor in attendance.
 Do not leave the victim unattended.

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- If inhaled : Move to fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

- In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

- If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
Rinse mouth with water.

- Most important symptoms and effects, both acute and delayed : May cause cancer.
May damage fertility. May damage the unborn child.
May cause damage to organs through prolonged or repeated exposure.

- Notes to physician : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

- Unsuitable extinguishing media : High volume water jet

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

- Hazardous combustion products : In case of fire hazardous decomposition products may be produced such as:
Gaseous hydrogen chloride (HCl).
Sulfur oxides
Nitrogen oxides (NOx)
Carbon oxides
Sodium oxides

- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

- Special protective equipment : Wear self-contained breathing apparatus for firefighting if

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for fire-fighters necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Prevent any exposure
Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Avoid dust formation.
Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : Avoid formation of respirable particles.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : 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.
Electrical installations / working materials must comply with the technological safety standards.
- Storage temperature : 15 °C to 30 °C
Protect against light.
Protect from moisture.
- Further information on storage stability : No decomposition if stored and applied as directed.
- Packaging material : Suitable material: Plastic container of HDPE, Polyethylene bag in metal drum, Stainless steel

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Ingredients with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|-------------|-------------------------------------|--|---|
| Vismodegib | 879085-55-9 | IOEL | 0.0003 mg/m ³ | Roche Industrial Hygiene Committee (RIHC) |
| Cellulose | 9004-34-6 | TWA | 10 mg/m ³ | ACGIH |
| | | TWA (Respirable) | 5 mg/m ³ | NIOSH REL |
| | | TWA (total) | 10 mg/m ³ | NIOSH REL |
| | | TWA (total dust) | 15 mg/m ³ | OSHA Z-1 |
| | | TWA (respirable fraction) | 5 mg/m ³ | OSHA Z-1 |
| | | TWA (Total dust) | 15 mg/m ³ | OSHA P0 |
| | | TWA (respirable dust fraction) | 5 mg/m ³ | OSHA P0 |
| Talc (Mg ₃ H ₂ (SiO ₃) ₄) | 14807-96-6 | TWA (Dust) | 20 Million particles per cubic foot | OSHA Z-3 |
| | | TWA (Respirable) | 2 mg/m ³ | NIOSH REL |
| | | TWA (Respirable particulate matter) | 2 mg/m ³ | ACGIH |
| | | PEL (respirable) | 0.05 mg/m ³ | OSHA CARC |
| Titanium oxide (TiO ₂) | 13463-67-7 | TWA (total dust) | 15 mg/m ³ | OSHA Z-1 |
| | | TWA (Total dust) | 10 mg/m ³ | OSHA P0 |
| | | TWA (Respirable particulate matter) | 0.2 mg/m ³ (Titanium dioxide) | ACGIH |
| | | TWA (Respirable particulate matter) | 2.5 mg/m ³ (Titanium dioxide) | ACGIH |

Predicted No Effect Concentration (PNEC):

| Substance name | Environmental Compartment | Value |
|----------------|-----------------------------------|----------|
| Vismodegib | Surface waters | 6.9 µg/l |
| | Remarks: Based on chronic data | |

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| | | |
|-----------------------|-------------|------------|
| Sodium dodecylsulfate | Fresh water | 0.176 mg/l |
|-----------------------|-------------|------------|

Engineering measures : No data available

Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
 Effective dust mask

Hand protection

In case of contact through splashing:
 Material : Nitrile rubber
 Break through time : > 30 min
 Glove thickness : > 0.11 mm

In case of full contact:
 Material : butyl-rubber
 Break through time : > 480 min
 Glove thickness : > 0.4 mm

Remarks : Wear appropriate protective gloves to prevent skin contact.
 Replace torn or punctured gloves promptly.

Eye protection : Eye wash bottle with pure water
 Tightly fitting safety goggles

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Protective measures : Instruction of employees mandatory

Hygiene measures : When using do not eat or drink.
 When using do not smoke.
 Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : capsules

Color : gray
 pink

Odor : Not applicable

Odor Threshold : Not applicable

pH : Not applicable

Melting point/range : No data available

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Boiling point/boiling range : No data available

Evaporation rate : No data available

Self-ignition : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapor pressure : No data available

Relative vapor density : Not applicable

Relative density : No data available

Solubility(ies)

 Water solubility : No data available

 Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Autoignition temperature : No data available

Viscosity

 Viscosity, dynamic : Not applicable

 Viscosity, kinematic : Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No decomposition if stored and applied as directed.

Incompatible materials : No data available

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Not classified due to lack of data.

Product:

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg

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Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 63.49 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Components:**Vismodegib:**

Acute oral toxicity : LD50 Oral (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 423
GLP: yes

Cellulose:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2,000 mg/kg

Lactose-1-Hydrate:

Acute oral toxicity : LD50 Oral (Rat): > 10,000 mg/kg
Test substance: anhydrous substance

Sulfuric acid monododecyl ester sodium salt (1:1):

Acute oral toxicity : LD50 Oral (Rat, male and female): 1,200 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 Dermal (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Remarks: No mortality observed at this dose.

Titanium oxide (TiO₂):

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 425

Acute inhalation toxicity : LC50 (Rat): > 6.82 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Not classified due to lack of data.

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Product:

Remarks : May cause skin irritation and/or dermatitis.

Components:

Vismodegib:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Sulfuric acid monododecyl ester sodium salt (1:1):

Species : Rabbit
Method : OECD Test Guideline 404
Result : Irritating to skin.
GLP : no

Talc (Mg₃H₂(SiO₃)₄):

Remarks : This information is not available.

Titanium oxide (TiO₂):

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Serious eye damage/eye irritation

Not classified due to lack of data.

Product:

Remarks : Product dust may be irritating to eyes, skin and respiratory system.

Components:

Sulfuric acid monododecyl ester sodium salt (1:1):

Species : Rabbit
Result : Risk of serious damage to eyes.
Method : OECD Test Guideline 405
GLP : no

Talc (Mg₃H₂(SiO₃)₄):

Remarks : This information is not available.

Titanium oxide (TiO₂):

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

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Not classified due to lack of data.

Respiratory sensitization

Not classified due to lack of data.

Components:**Sulfuric acid monododecyl ester sodium salt (1:1):**

Result : Did not cause sensitization on laboratory animals.

Titanium oxide (TiO₂):Species : Guinea pig
Assessment : Does not cause skin sensitization.
Method : OECD Test Guideline 406**Germ cell mutagenicity**

Not classified due to lack of data.

Components:**Vismodegib:**Genotoxicity in vitro : Test Type: Ames test
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Rat
Application Route: Oral
Result: negative**Sulfuric acid monododecyl ester sodium salt (1:1):**Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Method: OECD Test Guideline 474
Result: negative**Carcinogenicity**

May cause cancer.

Components:**Cellulose:**

Remarks : No ingredient of this product present at levels greater than or

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equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Titanium oxide (TiO₂):

Carcinogenicity - Assessment : Limited evidence of a carcinogenic effect.

| | | |
|-------------|--|------------|
| IARC | Group 2B: Possibly carcinogenic to humans Titanium oxide (TiO ₂) | 13463-67-7 |
| OSHA | OSHA specifically regulated carcinogen Talc (Mg ₃ H ₂ (SiO ₃) ₄) (crystalline silica) | 14807-96-6 |
| NTP | Known to be human carcinogen Talc (Mg ₃ H ₂ (SiO ₃) ₄) (Silica, Crystalline (Respirable Size)) | 14807-96-6 |

Reproductive toxicity

May damage fertility. May damage the unborn child.

Components:
Vismodegib:

Effects on fetal development : Test Type: Embryo-fetal development
 Species: Rat
 Application Route: Oral
 Embryo-fetal toxicity.: LOEL: 10 mg/kg bw/day
 Result: Teratogenicity and developmental toxicity
 GLP: yes

Reproductive toxicity - Assessment : Presumed human reproductive toxicant, May damage fertility.
 May damage the unborn child.

STOT-single exposure

Not classified due to lack of data.

Components:
Sulfuric acid monododecyl ester sodium salt (1:1):

Routes of exposure : Inhalation
 Target Organs : Respiratory Tract
 Assessment : May cause respiratory irritation.

Talc (Mg₃H₂(SiO₃)₄):

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

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Assessment : May cause damage to organs through prolonged or repeated exposure.

Talc (Mg₃H₂(SiO₃)₄):

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity**Components:****Vismodegib:**Species : Rat
NOAEL : mg/kg/w, <5
Application Route : Oral
Exposure time : 26 WeeksSpecies : Mouse
NOAEL : mg/kg bw/day, 50
Application Route : Oral
Exposure time : 84 d
Remarks : Subchronic toxicity**Aspiration toxicity**

Not classified due to lack of data.

Components:**Talc (Mg₃H₂(SiO₃)₄):**

No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Vismodegib:**Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 1.5 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yesNOEC (Danio rerio (zebra fish)): 1.5 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yesToxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

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Test Type: Immobilization
 Analytical monitoring: yes
 Method: OECD Test Guideline 202
 GLP: yes
 Remarks: nominal concentration

NOEC (Daphnia magna (Water flea)): 0.85 mg/l
 Exposure time: 48 h
 Test Type: Immobilization
 Analytical monitoring: yes
 Method: OECD Test Guideline 202
 GLP: yes
 Remarks: average measured concentration

Toxicity to algae/aquatic plants

: ErC50 (Pseudokirchneriella subcapitata (algae)): 0.118 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201
 GLP: yes

EyC50 (Pseudokirchneriella subcapitata (algae)): 0.099 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201
 GLP: yes

NOEC (Pseudokirchneriella subcapitata (algae)): 0.069 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201
 GLP: yes
 Remarks: nominal concentration

ErC50 (Desmodesmus subspicatus (green algae)): 0.95 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201
 GLP: yes
 Remarks: nominal concentration

EyC50 (Desmodesmus subspicatus (green algae)): 0.52 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201
 GLP: yes
 Remarks: nominal concentration

NOEC (Desmodesmus subspicatus (green algae)): 0.32 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201
 GLP: yes
 Remarks: nominal concentration

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

: NOEC (Daphnia magna (Water flea)): 1.5 mg/l
 Exposure time: 21 d
 Analytical monitoring: yes
 Method: OECD Test Guideline 211
 GLP: yes
 Remarks: nominal concentration

Lowest Observed Effect Concentration (Daphnia magna (Wa-

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ter flea)): 1.5 mg/l
 Exposure time: 21 d
 Analytical monitoring: yes
 Method: OECD Test Guideline 211
 GLP: yes
 Remarks: nominal concentration

Toxicity to microorganisms : (activated sludge): 54 mg/l
 Exposure time: 14 d
 Remarks: no adverse influence on substrate biodegradation
 nominal concentration

Cellulose:**Ecotoxicology Assessment**

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Lactose-1-Hydrate:**Ecotoxicology Assessment**

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to the environment : No data available

Sulfuric acid monododecyl ester sodium salt (1:1):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.6 mg/l
 Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 5.55 mg/l
 Exposure time: 48 h
 Method: OECD Test Guideline 202

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): > 1.36 mg/l
 Exposure time: 42 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (water flea)): 0.88 mg/l
 Exposure time: 7 d

Toxicity to microorganisms : EC0 (Pseudomonas putida): > 100 mg/l
 Method: OECD Test Guideline 209

Talc (Mg₃H₂(SiO₃)₄):

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100,000 mg/l
 Exposure time: 24 h

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- Acute aquatic toxicity : This product has no known ecotoxicological effects.
- Chronic aquatic toxicity : This product has no known ecotoxicological effects.
- Toxicity Data on Soil : Not expected to adsorb on soil.
- Other organisms relevant to the environment : No data available

Titanium oxide (TiO₂):

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
- LC50 (Cyprinodon variegatus (sheepshead minnow)): > 10,000 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
- EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l
Exposure time: 72 h
Method: ISO 10253
- NOEC (Skeletonema costatum (marine diatom)): 5,600 mg/l
Exposure time: 72 h
Method: ISO 10253

Ecotoxicology Assessment

- Toxicity Data on Soil : Not expected to adsorb on soil.
- Other organisms relevant to the environment : No data available

Persistence and degradability**Components:****Vismodegib:**

- Biodegradability : aerobic
Inoculum: activated sludge, non-adapted

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Theoretical oxygen demand
Result: Not readily biodegradable.
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

Lactose-1-Hydrate:

Biodegradability : Remarks: No data available

Sulfuric acid monododecyl ester sodium salt (1:1):

Biodegradability : aerobic
Inoculum: activated sludge, non-adapted
Result: Readily biodegradable.
Biodegradation: 95 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
GLP: yes

Titanium oxide (TiO₂):

Biodegradability : Remarks: Not applicable

Bioaccumulative potential**Components:****Vismodegib:**

Partition coefficient: n-
octanol/water : log Pow: 1.59
Method: OECD Test Guideline 117
GLP: yes

Cellulose:Partition coefficient: n-
octanol/water : Remarks: No data available**Lactose-1-Hydrate:**

Bioaccumulation : Remarks: No data available

Partition coefficient: n-
octanol/water : log Pow: -5.01
Remarks: anhydrous substance

Sulfuric acid monododecyl ester sodium salt (1:1):

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 3.9 - 5.3
Exposure time: 3 d

Partition coefficient: n-
octanol/water : log Pow: -2.03 (68 °F / 20 °C)
Method: OECD Test Guideline 107

Talc (Mg₃H₂(SiO₃)₄):

Partition coefficient: n- : Remarks: No data available

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octanol/water

Titanium oxide (TiO₂):Partition coefficient: n- : Remarks: No data available
octanol/water**Mobility in soil****Components:****Vismodegib:**Distribution among environ- : Koc method
mental compartments Medium: Soil
Koc: 2129 - 5001 ml/g
Method: OECD Test Guideline 106
Remarks: Slightly mobile in soilsKoc method
Medium: Sludge
Koc: 684 - 895 ml/g
Method: OECD Test Guideline 106**Other adverse effects****Product:**Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Pro-
tection of Stratospheric Ozone - CAA Section 602 Class I
Substances
Remarks: This product neither contains, nor was manufac-
tured with a Class I or Class II ODS as defined by the U.S.
Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).Additional ecological infor- : An environmental hazard cannot be excluded in the event of
mation unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.**Components:****Talc (Mg₃H₂(SiO₃)₄):**Adsorbed organic bound : Remarks: Not applicable
halogens (AOX)Additional ecological infor- : No data available
mation

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**Waste from residues : The product should not be allowed to enter drains, water
courses or the soil.
Do not contaminate ponds, waterways or ditches with chemi-
cal or used container.

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Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Vismodegib (35%) mixture)
Class : 9
Packing group : III
Labels : 9

IATA-DGR

UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(Vismodegib (35%) mixture)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Vismodegib (35%) mixture)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation**49 CFR**

UN/ID/NA number : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(Vismodegib (35%) mixture)
Class : 9
Packing group : III

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| | | |
|------------------|---|---------|
| Labels | : | CLASS 9 |
| ERG Code | : | 171 |
| Marine pollutant | : | no |

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 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 311/312 Hazards | : | Carcinogenicity Reproductive toxicity Specific target organ toxicity (single or repeated exposure) |
|-----------------------------|---|--|

| | | |
|-----------------|---|---|
| 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. |
|-----------------|---|---|

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations
Massachusetts Right To Know

| | |
|-----------|-----------|
| Cellulose | 9004-34-6 |
|-----------|-----------|

Pennsylvania Right To Know

| | |
|------------|-------------|
| Vismodegib | 879085-55-9 |
| Cellulose | 9004-34-6 |

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| | |
|--|------------|
| Gelatins | 9000-70-8 |
| Lactose-1-Hydrate | 64044-51-5 |
| Starch, carboxymethyl ether, sodium salt | 9063-38-1 |

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

California Prop. 65

WARNING: This product can expose you to chemicals including Titanium oxide (TiO₂), which is/are known to the State of California to cause cancer, and Vismodegib, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

| | |
|--|-----------|
| 2-Pyrrolidinone, 1-ethenyl-, homopolymer | 9003-39-8 |
|--|-----------|

California Permissible Exposure Limits for Chemical Contaminants

| | |
|-----------|-----------|
| Cellulose | 9004-34-6 |
|-----------|-----------|

California Regulated Carcinogens

| | |
|---|------------|
| Talc (Mg ₃ H ₂ (SiO ₃) ₄) | 14807-96-6 |
|---|------------|

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

- AIIC : Not in compliance with the inventory
- DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.
Vismodegib
- NZIoC : Not in compliance with the inventory
- ENCS : Not in compliance with the inventory
- ISHL : Not in compliance with the inventory
- KECI : Not in compliance with the inventory
- PICCS : Not in compliance with the inventory
- IECSC : Not in compliance with the inventory
- TCSI : Not in compliance with the inventory
- TSCA : Product contains substance(s) not listed on TSCA inventory.
- TECI : Not in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

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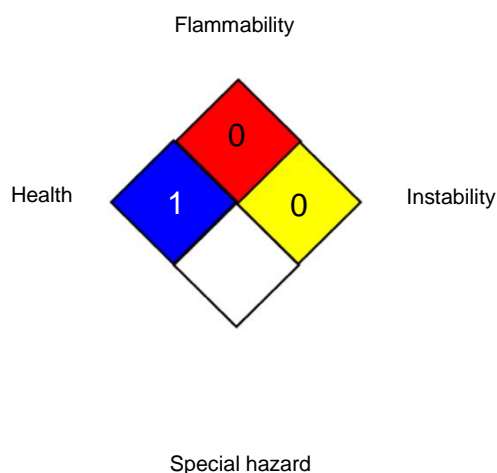
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No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

NFPA 704:



HMIS® IV:

| | | |
|------------------------|---|----------|
| HEALTH | * | 2 |
| FLAMMABILITY | | 0 |
| PHYSICAL HAZARD | | 0 |

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

- ACGIH : USA. ACGIH Threshold Limit Values (TLV)
- NIOSH REL : USA. NIOSH Recommended Exposure Limits
- OSHA CARC : OSHA Specifically Regulated Chemicals/Carcinogens
- OSHA P0 : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
- OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
- OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
- ACGIH / TWA : 8-hour, time-weighted average
- NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
- OSHA CARC / PEL : Permissible exposure limit (PEL)
- OSHA P0 / TWA : 8-hour time weighted average
- OSHA Z-1 / TWA : 8-hour time weighted average
- OSHA Z-3 / TWA : 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals

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in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The GHS classification for skin irritation and/or sensitization of the pure ingredients causes a corresponding GHS classification for the whole formulation. In view of the nature of the formulated product (film-coated tablet, capsule, etc.) an over-interpretation of the potential hazard is possible.

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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