



Revision Number: 5

Parsabiv™ Safety Data Sheet

Date Issued 09-Feb-2017

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERSTANDING

1.1 Product identifier

Product Name: Parsabiv™
Common Name: AMG 416, etelcalcetide HCl, KAI-4169
Chemical Name: Proprietary Information
Synonyms: No information available

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

Recommended Use: Pharmaceutical
Uses advised against: No information available

Manufacturer: Amgen Inc.
One Amgen Center Drive
Thousand Oaks, California 91320-1799
1-805-447-7233
1-805-447-1000

Emergency Telephone Number: Chemtrec
NORTH AMERICA 1-800-424-9300,
INTERNATIONAL 1-703-527-3887

2. HAZARDS IDENTIFICATION

Emergency Overview

Pharmaceutical product intended for clinical and commercial manufacturing purposes only. Product contains etelcalcetide HCl, an active pharmaceutical ingredient, for treatment of secondary hyperparathyroidism (sHPT) in patients with chronic kidney disease (KD) on hemodialysis. Dosage contents may pose a health hazard only if significant absorption occurs (e.g. inhalation after a major spill). Avoid inhalation, skin contact, eye contact and accidental ingestion. Based on available data, the GHS classification criteria are not met.

2.1 - Classification of the drug substance or mixture (drug product in final form, not applicable) REGULATION (EC) No 1272/2008

Not classified

Classification according to EU Directives 67/548/EEC or 1999/45/EC
For the full text of the R phrases mentioned in this Section, see Section 16

2.2 Label elements

Not classified

2.3 Other Hazards

No information available



Parsabiv™

Safety Data Sheet

Revision Number: 5

Date Issued 09-Feb-2017

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Ingredients: See below

CAS-No: 1262780-97-1 (free base); 1334237-71-6 (hydrochloride salt)

Parsabiv™ will be supplied for intravenous administration as a sterile, single-use, preservative-free liquid solution in 3 strengths: 2.5 mg etelcalcetide in 0.5 mL (5 mg/mL) solution, 5 mg etelcalcetide in 1 mL (5 mg/mL) solution, and 10 mg etelcalcetide in 2 mL (5 mg/mL) solution. All strengths are formulated with:

| | CAS Number: | Amount |
|------------------|--------------------|---------------|
| Sodium hydroxide | 1310-73-2 | 0.85 % (w/v) |
| Succinic acid | 110-15-6 | 10 mM |

4. FIRST AID MEASURES

4.1 Description of first-aid measures

Eye Contact: In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Consult a physician if necessary.

Inhalation: Move to fresh air. If symptoms persist, call a physician.

Ingestion: If symptoms persist, call a physician. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Notes to Physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Flammable Properties: No information available.

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Hazardous Combustion Products: No information available.

5.3 Advice for firefighters

Protective Equipment and Precautions for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved) and full protective gear.



Parsabiv™

Safety Data Sheet

Revision Number: 5

Date Issued 09-Feb-2017

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Spill Procedures:

If material is released or spilled, cordon off spill area. Take proper precautions to minimize exposure by using appropriate personal protective equipment in cleaning up a spill. If in powder form, wet down spilled material to minimize airborne dispersion. Soak up material with absorbent e.g., paper towels, and wash spill area thoroughly with appropriate cleaning materials. Dispose of collected material in accordance with applicable waste disposal regulations. Avoid release to the environment.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Handling and Storage:

Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke in work areas. Use adequate ventilation to minimize exposure. Wash hands, face and other potentially exposed areas immediately after handling this material. Remove contaminated clothing prior to entering eating areas. Clean protective equipment thoroughly after each use. Store in a well ventilated area.



Parsabiv™

Safety Data Sheet

Revision Number: 5

Date Issued 09-Feb-2017

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limit: No exposure guidelines established by ACGIH, NIOSH or OSHA. Amgen recommends an occupational exposure limit (OEL) of 6 µg/m³ as an 8-hour time weighted average over a 40-hour work week. The OEL is designed as an acceptable airborne concentration of a substance for which it is believed that workers may be repeatedly exposed day after day without adverse health effects. Etelcalcetide HCl has been classified per Amgen's Hazard Classification System as an Occupational Exposure Band 4 compound (5 µg/m³ - 20 µg/m³).

Engineering Controls: When practicable, handle material in enclosed processes or in processes with effective local exhaust ventilation or within a chemical hood.

8.2 Exposure controls

Personal Protective Equipment

Eye/face Protection: Wear safety glasses with side shields, chemical splash goggles, or safety glasses with side shields and a full-face shield to prevent contact with eyes. The choice of protection should be based on the job activity and potential for exposure to the eyes and face.

Skin Protection: Use gloves or other appropriate personal protective equipment if skin contact with formulation is possible. Wear lab coat or other protective over garment if splashing is possible. The choice of protection should be based on the job activity and potential for skin contact.

Respiratory Protection: When possible, handle material in enclosed processes or containers. If it is properly handled with effective local exhaust ventilation or containment, respiratory protection may not be needed. For procedures involving larger quantities or dust/aerosol generating procedures such as weighing or a large transfer of liquids, an air-purifying respirator with NIOSH approval for dusts and mists may be needed. The choice of protection should be based on the job activity and the potential for exposure.

Other: Wash hands, face and other potentially exposed areas after handling material (especially before eating, drinking or smoking). Clean protective equipment thoroughly after each use.

8.3 Environmental exposure controls

Environmental Exposure Controls Avoid release to the environment.



Parsabiv™

Safety Data Sheet

Revision Number: 5

Date Issued 09-Feb-2017

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|--|
| Appearance: | White to off-white lyophilized powder (HCl Salt and drug product) Clear, colorless liquid (liquid drug product) |
| Molecular Weight: | 1 kDa |
| Odor: | No information available |
| Odor Threshold: | No information available |
| pH: | pH 3.3 (liquid drug product) |
| Melting Point: | No information available |
| Boiling Point: | Not applicable (HCl salt and drug product), 100°C (liquid drug product) |
| Flash Point: | No information available |
| Evaporation Rate: | No information available |
| Lower explosive limit: | No information available |
| Upper explosive limit: | No information available |
| Vapor Pressure: | No information available |
| Vapor Density (air = 1): | No information available |
| Relative density: | No information available |
| Water Solubility: | At least 100 mg/mL (HCl salt and drug product), Fully miscible with water (liquid drug product) |
| Partition Coefficient (log Kow): | No information available |
| Viscosity: | No information available |

10. STABILITY AND REACTIVITY

| | |
|--|--|
| 10.1 Reactivity | No information available |
| 10.2 Chemical stability | No information available |
| 10.3 Possibility of hazardous reactions | No information available |
| 10.4 Conditions to avoid | No Information available |
| 10.5 Incompatible materials | No information available |
| 10.6 Hazardous decomposition products | No information available |
| 10.7 Other information | Dust Explosion Hazard Properties tested on etelcalcetide HCl API: MIE >1000mJ MIT (dust cloud) >600° C MEC 180< MEC<225; MEC estimate 225 g/m ³ Kst 42 bar-m/sec ± 30% Pmax 6.1 bar ± 10% Electrostatic Properties tested on etelcalcetide HCl API: Volume resistivity: 9.33 x 10 ¹⁵ Ω-cm Calculated Dielectric Constant: 1.97 Measured Decay Time: 3 sec |



Parsabiv™

Safety Data Sheet

Revision Number: 5

Date Issued 09-Feb-2017

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

| | |
|---|--|
| Acute Toxicity: | No information available |
| Skin corrosion/irritation: | No information available |
| Serious eye damage/eye irritation: | No information available |
| Respiratory or skin sensitization: | No information available |
| Germ cell mutagenicity: | Not genotoxic based on a battery of in vitro and in vivo studies. Based on available data, the GHS classification criteria are not met. |
| Carcinogenicity: | No information available |
| Reproductive toxicity: | Even though this does not meet GHS classification, the following data is available: Etelcalcetide HCl did not effect developmental toxicity following intravenous exposure in rats and rabbits. Also, no reproductive/fertility toxicity has been observed in male and female rats intravenously administered etelcalcetide HCl. |
| STOT - single exposure: | No information available |
| STOT - repeated exposure: | Even though this does not meet GHS classification, the following data is available: Etelcalcetide HCl was administered intravenously to rats at doses of 0 (vehicle), 0.3, 1 and 3 mg/kg/day and 0 (vehicle), 0.2, 0.5 and 1.2/0.9 mg/kg/dose (every other day) to dogs. Effects were correlated with exaggerated pharmacology (pronounced hypocalcemia). After 3 months of dosing, the only qualitatively new finding in dogs was the apparent minor inhibition of erythropoiesis that was mainly limited to the high-dose group and was attributable to malabsorption of vitamin B12 caused by chronically low serum calcium levels. After 6 months of dosing for rats and 9-months of dosing for dogs, the few additional findings were not considered adverse. The NOAEL in rats was 1 mg/kg/day and 0.5 mg/kg/dose in dogs. |
| Aspiration Hazard: | No information available |

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Ecotoxicity effects: No information available

12.2 Persistence and degradability

Persistence/Degradability: No information available

12.3 Bioaccumulative potential

Bioaccumulation/ Accumulation: No information available

12.4 Mobility in soil

Mobility in Environmental Media: No information available

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment: No information available

12.6 Other adverse effects

Other Adverse Effects: No information available



Revision Number: 5

Parsabiv™

Safety Data Sheet

Date Issued 09-Feb-2017

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste Disposal Method: Dispose of waste according to prescribed federal, state, local and competent authority guidelines.

14. TRANSPORT INFORMATION

DOT Not regulated by U.S. DOT or IATA

15. REGULATORY INFORMATION

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

International Inventories

| | |
|----------------------|---|
| TSCA: | - |
| EINECS/ELINCS | - |
| DSL/NDSL | - |
| PICCS: | - |
| ENCS: | - |
| CHINA: | - |
| AICS: | - |
| KECL: | - |

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

State Regulations

California Proposition 65: This product does not contain any Proposition 65 chemicals.

15.2 Chemical safety assessment

No CSA has been conducted.



Parsabiv™

Safety Data Sheet

Revision Number: 5

Date Issued 09-Feb-2017

16. OTHER INFORMATION

Text of R phrases mentioned in Section 2

No information available

Revision Number: 5

The above information is based on data available to us and is believed to be correct. Since the information may be applied under conditions beyond our control and with which we may be unfamiliar, we do not assume any responsibility for the results of its use and all persons receiving it must make their own determination of the effects, properties and protections, which pertain to their particular conditions.

No representation, warranty, or guarantee, express or implied (including a warranty of fitness or merchantability for a particular purpose), is made with respect to the materials, the accuracy of this information, the results to be obtained from the use thereof, or the hazards connected with the use of the material. Caution should be used in the handling and use of the material because it may be biologically active.