Neulasta ®
Safety Data Sheet

Revision Number: 6 **Date Issued** 14-Dec-2015

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

1.1 Product identifier

Product Name: Neulasta
Common Name: Pegfilgrastim
Chemical Name: Not Applicable
Synonyms: polyethylene glycol-granulocyte colony stimulating factor, PEG-GCSF, filgrastim SD-01

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 research and development, clinical and manufacturing purposes only. Product contains Pegfilgrastim, a covalent conjugate of recombinant methionyl human G-CSF (Filgrastim) and monomethoxypolyethylene glycol. Dosage form contents may pose a health hazard only if exposure occurs to contents, e.g., after spill or leak. Repeated overexposure in manufacturing or from a significant spill may potentially cause effects seen in patients administered the drug such as increased neutrophil count, increased lactic dehydrogenase (LDH) and alkaline phosphatase (AP) levels. Avoid inhalation, skin contact, eye contact, and ingestion. Does not meet GHS classification criteria and therefore is not classified. The Neulasta® On-Body Injector contains silver oxide batteries.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Ingredients: See below

Chemical Name: Not Applicable
CAS-No: 208265-92-3

Each prefilled syringe for manual use only and prefilled syringe co-packaged with the On-body Injector contains 6 mg/0.6 mL solution of Neulasta® with the following:

	CAS Number:	Amount
Sodium acetate	127-09-3	0.35 mg
Sorbitol	36134-87-9	30.0 mg
Sodium chloride (NaCl)	7647-14-5	0.02 mg
Polysorbate 20	9005-64-5	0.02 mg
Water for Injection, USP	7732-18-5	---

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: Not applicable/aqueous solution.

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: None

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.

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.

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 14 µg/m^3 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. Neulasta® has been classified per Amgen's Hazard Classification System as an Occupational Exposure Band 4 compound (5 µg/m^3 - 20 µg/m^3).

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear colorless
Physical State:	Liquid
Molecular Weight:	~ 18,000 Daltons
Odor:	No information available
Odor Threshold:	No information available
pH:	4.0
Melting Point:	Not applicable
Boiling Point:	No information available
Flash Point:	Not applicable /aqueous solution
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):	Not applicable
Relative density:	No information available
Water Solubility:	Soluble
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	Stable
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	None

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:	No information available
Carcinogenicity:	No information available
Reproductive toxicity:	Even though this does not meet GHS classification, the following data is available: Neulasta® was administered once weekly via SC injections to male and female rats at doses up to 1000 µg/kg prior to, and during mating. Reproductive performance, fertility, and sperm assessment parameters were not affected. No significant treatment-related effects on embryo-fetal development were observed in pregnant rats injected SC every other day with up to 1000 µg/kg of Neulasta®. Neulasta® was not teratogenic in pregnant rabbits at SC doses as high as 200 µg/kg administered every other day. Increased embryo loss, including abortions, was observed at doses of 200 µg/kg or higher. The relevance of these findings for humans is unknown. Neulasta® did not affect fertility after weekly SC injections of male and female rats before and during mating with doses up to 1000 µg/kg/wk.
STOT - single exposure:	Even though this does not meet GHS classification, the following data is available: Neulasta® did not cause definitive treatment-related toxicity following single IV doses as high as 10,000 µg/kg in rats. Large increases in neutrophil counts (expected pharmacological effect of Neulasta® observed initially were mostly reversed by 14 days post-treatment. Splenic enlargement (secondary to pharmacology of Neulasta®) as observed 14 days post-treatment at a dose of 10,000 µg/kg.
STOT - repeated exposure:	Even though this does not meet GHS classification, the following data is available: Neulasta® was well-tolerated for up to 6 months at a once-weekly dose of 1000 µg/kg SC or 300 µg/kg IV in rats and for up to 1 month at a once-weekly dose of 750 µg/kg in monkeys, with no treatment-related mortality or clinical signs. Neulasta® caused intermittent increases in white blood cells, principally due to large increases in circulating neutrophils. Increases in alkaline phosphatase activity in serum were often observed. Neulasta® stimulated granulopoiesis in bone marrow and extramedullary hematopoesis in spleen, liver, and/or lymph nodes, consistent with its pharmacological activity. Significant increases in spleen weight were routinely observed. The foregoing changes tended to reverse following a treatment-free period.
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

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste Disposal Method: The Neulasta® On-body Injector contains silver oxide batteries. Dispose of waste according to prescribed federal, state, local and competent authority guidelines.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

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: The active ingredient, filgrastim is listed as a developmental toxicant.

15.2 Chemical safety assessment

No CSA has been conducted.

16. OTHER INFORMATION

Text of R phrases mentioned in Section 2
No information available

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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.