SAFETY DATA SHEET

PEGASYS(R) Vials (180 mcg/ml)

SECTION 1. IDENTIFICATION

Product name : PEGASYS(R) Vials (180 mcg/ml)
Product code : 00010049980

Manufacturer or supplier's details
Company name of supplier : Genentech, Inc.
Address : DNA Way 1
         : 94080 South San Francisco
         : CA
         : USA
Telephone : 001-(650) 225-1000
E-mail address : info.sds@roche.com
Emergency telephone : US Chemtrec phone (800)-424-9300

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 29 CFR 1910.1200
Not a hazardous substance or mixture.

GHS label elements
Not a hazardous substance or mixture.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEG-Interferon-alpha2A</td>
<td>198153-51-4</td>
<td>0.18</td>
</tr>
<tr>
<td>Benzenemethanol</td>
<td>100-51-6</td>
<td>1.0</td>
</tr>
<tr>
<td>Sodium chloride (NaCl)</td>
<td>7647-14-5</td>
<td>0.8</td>
</tr>
<tr>
<td>Sodium acetate trihydrate</td>
<td>6131-90-4</td>
<td>&lt; 0.3</td>
</tr>
<tr>
<td>Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.</td>
<td>9005-65-6</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&gt; 97.0</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

PEGASYS(R) Vials (180 mcg/ml)

SECTION 4. FIRST AID MEASURES

General advice: Do not leave the victim unattended.

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 on skin, rinse well with water.

In case of eye contact: Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. 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. Rinse mouth with water.

Most important symptoms and effects, both acute and delayed: None known.

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.

Specific hazards during fire fighting: No information available.

Hazardous combustion products: Carbon oxides

Further information: Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Refer to protective measures listed in sections 7 and 8.

Environmental precautions: Local authorities should be advised if significant spillages
SAFETY DATA SHEET

PEGASYS(R) Vials (180 mcg/ml)

Methods and materials for containment and cleaning up:
Wipe up with absorbent material (e.g. cloth, fleece).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

Advice on safe handling:
For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Conditions for safe storage:
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions:
See label, package insert or internal guidelines

Materials to avoid:
No materials to be especially mentioned.

Storage temperature:
Protected from heat and light

Further information on storage stability:
No decomposition if stored and applied as directed.

Packaging material:
Suitable material: Stainless steel, glass, Prefilled syringes, Autoinjector

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzenemethanol</td>
<td>100-51-6</td>
<td>TWA</td>
<td>10 ppm</td>
<td>US WEEL</td>
</tr>
<tr>
<td>PEG-Interferon-alpha2A</td>
<td>198153-51-4</td>
<td>IOEL</td>
<td>0.00006 mg/m3</td>
<td>Roche Industrial Hygiene Committee (RIHC)</td>
</tr>
</tbody>
</table>

Engineering measures:
No data available

Personal protective equipment
Respiratory protection:
No personal respiratory protective equipment normally required.

Hand protection
Material:
Protective gloves
Remarks : Wear appropriate protective gloves to prevent skin contact. Replace torn or punctured gloves promptly.
Eye protection : Safety glasses
Skin and body protection : Protective suit
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Aqueous solution, sterile
Color : colorless, light yellow
Odor : No data available
Odor Threshold : No data available
pH : 5.5 - 6.5
Melting point/range : No data available
Boiling point/boiling range : No data available
Flash point : does not flash
Evaporation rate : No data available
Flammability (solid, gas) : Does not sustain combustion.
Flammability (liquids) : Does not sustain combustion.
Self-ignition : Not applicable
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 : No data available
Relative density : No data available
Density : 1.004 g/cm3
Solubility(ies) Water solubility : completely miscible
Solubility in other solvents : No data available
SAFETY DATA SHEET

PEGASYS(R) Vials (180 mcg/ml)

Version: 1.0
Revision Date: 02-27-2020
Date of last issue: -
Date of first issue: 02-27-2020

Partition coefficient: n-octanol/water: No data available
Autoignition temperature: No data available
Decomposition temperature: No data available
Viscosity
  Viscosity, dynamic: No data available
  Viscosity, kinematic: No data available
Explosive properties: No data available
Oxidizing properties: No data available

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:
  Stable under recommended storage conditions.
  No hazards to be specially mentioned.
Conditions to avoid: No data available
Incompatible materials: No data available
Hazardous decomposition products: No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity:
Not classified based on available information.

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

Components:
PEG-Interferon-alpha2A:
Acute toxicity (other routes of administration):
  No-observed-effect level (cynomolgus monkey): 0.3 mg/kg
  Application Route: i.v.
  No-observed-effect level (cynomolgus monkey): 6.75 mg/kg
  Application Route: s.c.
### SAFETY DATA SHEET

**PEGASYS(R) Vials (180 mcg/ml)**

**Version**: 1.0  
**Revision Date**: 02-27-2020  
**Date of last issue**: -  
**Date of first issue**: 02-27-2020

<table>
<thead>
<tr>
<th>Component</th>
<th>Acute oral toxicity</th>
<th>Acute inhalation toxicity</th>
<th>Acute dermal toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benzenemethanol</strong></td>
<td>LD50 Oral (Rat): 1,230 mg/kg</td>
<td>LC50 (Rat): &gt; 4,178 mg/l</td>
<td>LD50 Dermal (Rabbit): 2,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral (Mouse): 1,360 mg/kg</td>
<td>Test atmosphere: vapor</td>
<td></td>
</tr>
<tr>
<td><strong>Sodium chloride (NaCl)</strong></td>
<td>LD50 Oral (Rat): 3,000 mg/kg</td>
<td>Acute toxicity estimate: &gt; 30 mg/l</td>
<td>LD50 Dermal (Rabbit): &gt; 10,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral (Mouse): 4,000 mg/kg</td>
<td>Test atmosphere: dust/mist</td>
<td></td>
</tr>
<tr>
<td><strong>Sodium acetate trihydrate</strong></td>
<td>LD50 (Rat): 3,530 mg/kg</td>
<td>LC50 (Rat): &gt; 30 mg/l</td>
<td>LD50 (Rabbit): &gt; 10,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 (Mouse): 4,960 mg/kg</td>
<td>Exposure time: 1 h</td>
<td></td>
</tr>
<tr>
<td><strong>Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.</strong></td>
<td>LD50 Oral (Rat): 63,840 mg/kg</td>
<td>Test atmosphere: dust/mist</td>
<td></td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td>Not classified based on available information.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Components:**

- **Benzenemethanol**:  
  **Remarks**: This information is not available.

- **Sodium chloride (NaCl)**:  
  **Remarks**: This information is not available.

- **Sodium acetate trihydrate**:  
  **Remarks**: This information is not available.
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Serious eye damage/eye irritation
Not classified based on available information.

Components:

Benzenemethanol:
Remarks: This information is not available.

Sodium chloride (NaCl):
Remarks: This information is not available.

Sodium acetate trihydrate:
Remarks: This information is not available.

Respiratory or skin sensitization

Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Components:

PEG-Interferon-alpha2A:
Genotoxicity in vitro: Result: negative
Remarks: In vitro tests did not show mutagenic effects

Carcinogenicity
Not classified based on available information.

Components:

Benzenemethanol:
Remarks: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.:
Remarks: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.
SAFETY DATA SHEET

PEGASYS(R) Vials (180 mcg/ml)

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Not classified based on available information.

STOT-single exposure
Not classified based on available information.

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

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

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure
Not classified based on available information.

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

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

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration toxicity
Not classified based on available information.

Components:
Benzenemethanol:
No data available

Sodium acetate trihydrate:
No data available
PEGASYS(R) Vials (180 mcg/ml)

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.:
No data available

SECTION 12. ECOLOGICAL INFORMATION

Components:

PEG-Interferon-alpha2A:

Toxicity to fish:
- LC50 (Cyprinus carpio (Carp)): > 300 mg/l
  Exposure time: 96 h
  Test Type: semi-static test
  Method: OECD Test Guideline 203
  GLP: yes
  NOEC (Cyprinus carpio (Carp)): 300 mg/l
  Exposure time: 96 h
  Test Type: semi-static test
  Method: OECD Test Guideline 203
  GLP: yes

Toxicity to daphnia and other aquatic invertebrates:
- LC50 (Daphnia magna (Water flea)): > 300 mg/l
  Exposure time: 48 h
  Test Type: semi-static test
  Method: OECD Test Guideline 202
  GLP: yes
  NOEC (Daphnia magna (Water flea)): 300 mg/l
  Exposure time: 48 h
  Test Type: semi-static test
  Method: OECD Test Guideline 202
  GLP: yes

Toxicity to microorganisms:
- (activated sludge): 3.3 mg/l
  Exposure time: 28 d
  Method: OECD Test Guideline 301D
  GLP: yes
  Remarks: Barely inhibitory on aerobic bacterial respiration

Benzenemethanol:

Toxicity to fish:
- LC50 (Pimephales promelas (fathead minnow)): 460 mg/l
  Exposure time: 96 h
  Method: OECD Test Guideline 203

- LC50 (Oncorhynchus mykiss (rainbow trout)): 315 mg/l
  Exposure time: 96 h
  Method: OECD Test Guideline 203

- LC50 (Lepomis macrochirus (Bluegill sunfish)): 10 mg/l
  Exposure time: 96 h
  Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:
- EC50 (Daphnia magna (Water flea)): 400 mg/l
  Exposure time: 24 h
**SAFETY DATA SHEET**

**PEGASYS(R) Vials (180 mcg/ml)**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>02-27-2020</td>
<td></td>
<td>02-27-2020</td>
</tr>
</tbody>
</table>

**Ecotoxicology Assessment**

**Acute aquatic toxicity**
- Toxic to aquatic life.

**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

### Sodium chloride (NaCl):

**Toxicity to fish**
- LC50 (Pimephales promelas (fathead minnow)): 7,650 mg/l Exposure time: 96 h

**Toxicity to daphnia and other aquatic invertebrates**
- EC50 (Daphnia magna (Water flea)): 1,000 mg/l Exposure time: 48 h

**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

### Sodium acetate trihydrate:

**Toxicity to fish**
- LC50 (Lepomis macrochirus (Bluegill sunfish)): 5,000 mg/l Exposure time: 24 h
- LC50 (Leuciscus idus (Golden orfe)): > 1,000 mg/l Exposure time: 48 h

**Toxicity to daphnia and other aquatic invertebrates**
- EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h

**Toxicity to microorganisms**
- EC50 (Pseudomonas putida): 7,200 mg/l Exposure time: 18 h
- EC50 (Photobacterium phosphoreum): 22,500 mg/l Exposure time: 0.25 h
### Ecotoxicology Assessment

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

**Other organisms relevant to the environment:**
- No data available

### Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.: Ecotoxicology Assessment

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

**Other organisms relevant to the environment:**
- No data available

### Persistence and degradability

**Product:**

**Biodegradability**
- Biodegradation: ≤ 22%
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301D
  - Remarks: The value is given in analogy to the following substances:
    - The value is given in analogy to the following substances:
    - PEG-Interferon-alpha2A

### Components:

**PEG-Interferon-alpha2A:**

**Biodegradability**
- Concentration: 3.3 mg/l
  - Result: Not readily biodegradable.
  - Biodegradation: ≤ 22%
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301D
  - GLP: yes

**Benzenemethanol:**

**Biodegradability**
- Biodegradation: 100%
  - Exposure time: 2 d
  - Method: OECD Test Guideline 302B

**Sodium chloride (NaCl):**

**Biodegradability**
- Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

**Sodium acetate trihydrate:**

**Biodegradability**
- Biodegradation: 99%
  - Exposure time: 28 d
Bioaccumulative potential

**Components:**

**PEG-Interferon-alpha2A:**
Partition coefficient: n-octanol/water  :  Remarks: No data available

**Benzenemethanol:**
Partition coefficient: n-octanol/water  :  log Pow: 1.10

**Sodium chloride (NaCl):**
Partition coefficient: n-octanol/water  :  Remarks: No data available

**Sodium acetate trihydrate:**
Partition coefficient: n-octanol/water  :  log Pow: -4.22

**Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.:**
Partition coefficient: n-octanol/water  :  Remarks: No data available

**Water:**
Partition coefficient: n-octanol/water  :  Remarks: No data available

**Mobility in soil**
No data available

**Other adverse effects**

**Product:**
Ozone-Depletion Potential  :  Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: 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).

**Components:**

**Benzenemethanol:**
Additional ecological information  :  No data available
SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Can be disposed as waste water, when in compliance with local regulations.
Contaminated packaging: 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
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

Domestic regulation

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component TPQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA 311/312 Hazards</td>
<td>: No SARA Hazards</td>
<td></td>
</tr>
</tbody>
</table>

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).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

- Benzenemethanol: 100-51-6, \( \geq 1 - < 5 \% \)

**Clean Water Act**

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

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

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

**US State Regulations**

**Massachusetts Right To Know**

- Benzenemethanol: 100-51-6

**Pennsylvania Right To Know**

- Water: 7732-18-5
- Benzenemethanol: 100-51-6

**Maine Chemicals of High Concern**

**Vermont Chemicals of High Concern**

**Washington Chemicals of High Concern**

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

- **DSL**: This product contains the following components that are not on the Canadian DSL nor NDSL:
  - PEG-Interferon-alpha2A

- **AICS**: Not in compliance with the inventory

- **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**: 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.
NFPA:

HMIS® IV:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ 0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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

US WEEL : USA. Workplace Environmental Exposure Levels (WEEL)
US WEEL / TWA : 8-hr TWA

AICS - Australian Inventory of Chemical Substances; 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 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; JECIC - 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; 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

Revision Date : 02-27-2020

The information provided in this Material 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.

US / Z8 / 1810