SAFETY DATA SHEET

NutropinAQ(R) Pen Cartridge and NuSpin (20 mg/2 ml)

Version: 1.0
Revision Date: 02-13-2020
Date of last issue: -
Date of first issue: 02-13-2020

SECTION 1. IDENTIFICATION

Product name: NutropinAQ(R) Pen Cartridge and NuSpin (20 mg/2 ml)
Product code: RO682-3852/F03

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>Somatropin</td>
<td>12629-01-5</td>
<td>1.0</td>
</tr>
<tr>
<td>Sodium chloride (NaCl)</td>
<td>7647-14-5</td>
<td>0.88</td>
</tr>
<tr>
<td>Sodium citrate</td>
<td>6132-04-3</td>
<td>0.27</td>
</tr>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>0.25</td>
</tr>
<tr>
<td>Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.</td>
<td>9005-65-6</td>
<td>0.19</td>
</tr>
<tr>
<td>1,2,3-Propanetricarboxylic acid, 2-hydroxy-</td>
<td>77-92-9</td>
<td>&lt; 0.02</td>
</tr>
</tbody>
</table>
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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:
- In case of fire hazardous decomposition products may be produced such as:
  - Carbon monoxide
  - Nitrogen oxides (NOx)
  - Sulfur 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
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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 cannot be contained.

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, 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>Somatropin</td>
<td>12629-01-5</td>
<td>IOEL</td>
<td>0.02 mg/m³</td>
<td>Roche Industrial Hygiene Committee (RIHC)</td>
</tr>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>TWA</td>
<td>5 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>19 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15.6 ppm 60 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 ppm</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>19 mg/m³</td>
<td>OSHA P0</td>
</tr>
</tbody>
</table>

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19 mg/m3

Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>Phenol</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>250 mg/g Creatinine</td>
<td>ACGIH BEI</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, Clear liquid, sterile
Color : colorless
Odor : No data available
Odor Threshold : No data available
pH : No data available
Melting point/range : No data available
Boiling point/boiling range : No data available
Flash point : does not flash
Evaporation rate : No data available
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
Solubility(ies)
  Water solubility : completely miscible
  Solubility in other solvents : No data available
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

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : Stable under normal conditions. Proteins are temperature-sensitive; the thermal denaturation has an impact on quality but does not affect Plant and Process Safety; during decomposition no flammable gas, no organic peroxide and no oxidising substances are created
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 dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Components:

Somatropin:
Acute oral toxicity: Remarks: Not bioavailable by oral administration

Sodium chloride (NaCl):
Acute oral toxicity: LD50 Oral (Rat): 3,000 mg/kg
LD50 Oral (Mouse): 4,000 mg/kg
Acute inhalation toxicity: Acute toxicity estimate: > 30 mg/l
Test atmosphere: dust/mist
Method: Expert judgment
Acute dermal toxicity: LD50 Dermal (Rabbit): > 10,000 mg/kg

Sodium citrate:
Acute oral toxicity: LD50 Oral (Rat): > 8,000 mg/kg
Acute inhalation toxicity: Acute toxicity estimate: > 30 mg/l
Test atmosphere: dust/mist
Method: Expert judgment
Acute dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Expert judgment

Phenol:
Acute oral toxicity: LD50 Oral (Rat): 317 mg/kg
LD50 Oral (Mouse): 270 mg/kg
Acute inhalation toxicity: LC50 (Rat): 0.9 mg/l
Exposure time: 8 h
Test atmosphere: vapor
Acute dermal toxicity: LD50 Dermal (Rabbit): 630 mg/kg

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.:
Acute oral toxicity: LD50 Oral (Rat): 63,840 mg/kg

1,2,3-Propanetricarboxylic acid, 2-hydroxy-:
Acute oral toxicity: LD50 Oral (Rat): > 6,730 mg/kg
LD50 Oral (Rabbit): > 7,000 mg/kg
LD50 Oral (Mouse): 5,400 mg/kg

Skin corrosion/irritation
Not classified based on available information.

**Components:**

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

**1,2,3-Propanetricarboxylic acid, 2-hydroxy-:**
Remarks: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation
Not classified based on available information.

**Components:**

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

**Sodium citrate:**
Species: Rabbit
Remarks: slight irritation

**Phenol:**
Result: Risk of serious damage to eyes.

**1,2,3-Propanetricarboxylic acid, 2-hydroxy-:**
Result: Irritating to eyes.
Remarks: May cause irreversible eye damage.

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:**

**Somatropin:**
Genotoxicity in vitro: Test Type: Chromosome aberration test in vitro
Result: positive
Phenol:
Genotoxicity in vitro : Remarks: In vitro tests showed mutagenic effects

Germ cell mutagenicity - Assessment : In vitro tests showed mutagenic effects

Carcinogenicity
Not classified based on available information.

Components:

Sodium citrate:
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.

Phenol:
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.

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.

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

Components:

Sodium citrate:
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.

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

Components:  
Sodium citrate:  
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.

Repeated dose toxicity  
Components:  
1,2,3-Propanetricarboxylic acid, 2-hydroxy-:  
NOAEL: 4,000 mg/kg  
Exposure time: 5d  
Number of exposures: 1

Aspiration toxicity  
Not classified based on available information.

Components:  
Sodium citrate:  
No data available

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

SECTION 12. ECOLOGICAL INFORMATION  
Components:  
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 citrate:
Toxicity to fish: LC50 (Poecilia reticulata (guppy)): > 18,000 - 32,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 5,600 - 10,000 mg/l
Exposure time: 48 h

EC50 (Ceriodaphnia dubia (water flea)): 735.4 mg/l
Exposure time: 48 h

Toxicity to algae: IC50 (Chlorella vulgaris (Fresh water algae)): > 18,000 - 32,000 mg/l
Exposure time: 96 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

Phenol:
Toxicity to fish: LC50 (Cyprinus carpio (Carp)): 1.75 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 10 mg/l
Exposure time: 48 h

Toxicity to algae: EC50 (Chlorella vulgaris (Fresh water algae)): 370 mg/l
Exposure time: 96 h

Toxicity to microorganisms: (Pseudomonas putida): 64 mg/l
Exposure time: 16 h

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.

1,2,3-Propanetricarboxylic acid, 2-hydroxy-:
Toxicity to fish: LC0 (Carassius auratus (goldfish)): 625 mg/l
Toxicity to daphnia and other aquatic invertebrates: LC100 (Daphnia magna (Water flea)): 85 mg/l
Toxicity to algae: EC0 (Scenedesmus quadricauda (Green algae)): 640 mg/l
Toxicity to microorganisms: EC0 (Pseudomonas putida): > 10,000 mg/l
Exposure time: 16 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.

Persistence and degradability
Components:
Somatropin:
Biodegradability: Result: Globular proteins are generally well biodegradable.
Sodium chloride (NaCl):
Biodegradability: Remarks: The methods for determining biodegradability are not applicable to inorganic substances.
Sodium citrate:
Biodegradability: Biodegradation: 98 %
Exposure time: 3 d
Remarks: Expected to be biodegradable.

1,2,3-Propanetricarboxylic acid, 2-hydroxy-:
Biodegradability: Biodegradation: 98 %
Exposure time: 7 d
Method: OECD Test Guideline 302B

Bioaccumulative potential
Components:
Somatropin:
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Partition coefficient: n-octanol/water
Remarks: No data available

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

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

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

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

**1,2,3-Propanetricarboxylic acid, 2-hydroxy-:**
Partition coefficient: n-octanol/water
log Pow: -1.72

**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:**

**Somatropin:**
Additional ecological information
Protein with highly specific affinity to a certain antigen; therefore, no appreciable ecotoxic potential is to be expected

**Phenol:**
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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>1000</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>1000</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.

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></td>
<td>No SARA Hazards</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). This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act
The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

\[
\text{Phenol} \quad 108-95-2 \quad \geq 0.1 - < 1 \% \\
\]

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

\[
\text{Phenol} \quad 108-95-2 \quad \geq 0.1 - < 1 \% \\
\]

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

\[
\text{Phenol} \quad 108-95-2 \\
\]

Pennsylvania Right To Know

\[
\text{Water} \quad 7732-18-5 \\
\text{Phenol} \quad 108-95-2 \\
\]

Maine Chemicals of High Concern

Vermont Chemicals of High Concern

\[
\text{Phenol} \quad 108-95-2 \\
\]

Washington Chemicals of High Concern

\[
\text{Phenol} \quad 108-95-2 \\
\]

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

\[
\text{DSL} : \quad \text{This product contains the following components that are not on the Canadian DSL nor NDSL.} \\
\quad \text{Somatropin} \\
\]

\[
\text{AICS} : \quad \text{Not in compliance with the inventory} \\
\text{NZIoC} : \quad \text{Not in compliance with the inventory} \\
\text{ENCS} : \quad \text{Not in compliance with the inventory} \\
\text{ISHL} : \quad \text{Not in compliance with the inventory} \\
\text{KECI} : \quad \text{Not in compliance with the inventory} \\
\text{PICCS} : \quad \text{Not in compliance with the inventory} \\
\text{IECSC} : \quad \text{Not in compliance with the inventory} \\
\]
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**TCSI**

On the inventory, or 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.

---

**SECTION 16. OTHER INFORMATION**

**NFPA:**

Flammability:

<table>
<thead>
<tr>
<th>Health</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**HMIS® IV:**

- **HEALTH**
  - 0
- **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)
- **ACGIH BEI**: ACGIH - Biological Exposure Indices (BEI)
- **NIOSH REL**: USA. NIOSH Recommended Exposure Limits
- **OSHA P0**: USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
- **OSHA Z-1**: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
- **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
- **NIOSH REL / C**: Ceiling value not be exceeded at any time.
- **OSHA P0 / TWA**: 8-hour time weighted average
- **OSHA Z-1 / TWA**: 8-hour time weighted average

**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** -
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Revision Date : 02-13-2020

US / Z8 / 1810