1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Pfizer Inc
Pfizer Pharmaceuticals Group
235 East 42nd Street
New York, New York 10017
1-212-573-2222

Pfizer Ltd
Ramsgate Road
Sandwich, Kent
CT13 9NJ
United Kingdom
+00 44 (0)1304 616161

Emergency telephone number:
CHEMTREC (24 hours): 1-800-424-9300

Contact E-Mail: pfizer-MSDS@pfizer.com

Material Name: AVINZA (Morphine Sulfate) Extended Release Capusles

Trade Name: AVINZA
Chemical Family: Opiod
Intended Use: Pharmaceutical active used as opioid analgesic

2. HAZARDS IDENTIFICATION

Appearance: Capsules varying in color depending on strength
Signal Word: WARNING

Statement of Hazard:
Harmful if swallowed.
May cause harm to the unborn child.
May cause harm to breastfed babies.
Suspected of causing genetic defects.

Additional Hazard Information:
Short Term: Dust may cause irritation if tablets are crushed or broken
Long Term: Repeat-dose studies in animals have shown a potential to cause adverse effects on the developing fetus.

Known Clinical Effects:
Ingestion of this material may cause effects similar to those seen in clinical use including dry mouth, drowsiness, headache, dizziness, nausea, vomiting, weakness, anxiety, blurred vision and dilated pupils. Cases of overdosage may also lead to respiratory depression, hypotension, coma, convulsions, cardiac arrhythmia, and tachycardia.

EU Indication of danger:
Harmful
Toxic to reproduction, Category 2
Mutagenic: Category 3

EU Hazard Symbols:

EU Risk Phrases:
R22 - Harmful if swallowed.
R61 - May cause harm to the unborn child.
R64 - May cause harm to breastfed babies.
R68 - Possible risk of irreversible effects.
2. HAZARDS IDENTIFICATION

Australian Hazard Classification (NOHSC):

Note:
This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the active substance or its intermediates regardless of the potential risk. The precautionary statements and warnings included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>EU Classification</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc (non-asbestiform)</td>
<td>14807-96-6</td>
<td>238-877-9</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Sodium lauryl sulfate</td>
<td>151-21-3</td>
<td>205-788-1</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Sugar</td>
<td>57-50-1</td>
<td>200-334-9</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Morphine Sulfate</td>
<td>64-31-3</td>
<td>200-582-8</td>
<td>Xn;R22</td>
<td>30, 45, 60, 75, 90, or 120mg***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>EU Classification</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonio methacrylate coploymer</td>
<td>33434-24-1</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Povidone</td>
<td>9003-39-8</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Fumaric acid</td>
<td>110-17-8</td>
<td>203-743-0</td>
<td>Xi;R36</td>
<td>*</td>
</tr>
<tr>
<td>Hard gelatin capsules</td>
<td>MIXTURE</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>*</td>
</tr>
</tbody>
</table>

Additional Information:
* Proprietary
*** per tablet/capsule/lozenge/suppository
Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Eye Contact: Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.

Skin Contact: Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

Inhalation: Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Symptoms and Effects of Exposure: For information on potential signs and symptoms of exposure, See Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.
5. FIRE FIGHTING MEASURES

Extinguishing Media: Use carbon dioxide, dry chemical, or water spray.

Hazardous Combustion Products: Emits toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides and other sulfur-containing compounds.

Fire Fighting Procedures: During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

Fire / Explosion Hazards: Not applicable

6. ACCIDENTAL RELEASE MEASURES

Health and Safety Precautions: Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

Measures for Cleaning / Collecting: Contain the source of spill if it is safe to do so. Collect spilled material by a method that controls dust generation. A damp cloth or a filtered vacuum should be used to clean spills of dry solids. Clean spill area thoroughly.

Measures for Environmental Protections: Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

Additional Consideration for Large Spills: Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

7. HANDLING AND STORAGE

General Handling: Minimize dust generation and accumulation. If tablets or capsules are crushed and/or broken, avoid breathing dust and avoid contact with eyes, skin, and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Storage Conditions: Store as directed by product packaging.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Refer to available public information for specific member state Occupational Exposure Limits.

Talc (non-asbestiform)

<table>
<thead>
<tr>
<th>Source</th>
<th>Limit Value (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Australia TWA</td>
<td>2.5 mg/m³</td>
</tr>
<tr>
<td>Austria OEL - MAKs</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Belgium OEL - TWA</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Bulgaria OEL - TWA</td>
<td>1.0 fiber/cm³</td>
</tr>
<tr>
<td></td>
<td>6.0 mg/m³</td>
</tr>
<tr>
<td></td>
<td>3.0 mg/m³</td>
</tr>
<tr>
<td>Czech Republic OEL - TWA</td>
<td>2.0 mg/m³</td>
</tr>
<tr>
<td></td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Denmark OEL - TWA</td>
<td>0.3 fiber/cm³</td>
</tr>
</tbody>
</table>
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:
Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes. Keep airborne contamination levels below the exposure limits listed above in this section.

Environmental Exposure Controls:
Refer to specific Member State legislation for requirements under Community environmental legislation.

Personal Protective Equipment:
Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).

---
Sodium lauryl sulfate
Pfizer OEL TWA-8 Hr:
0.3 mg/m³

Sugar
ACGIH Threshold Limit Value (TWA)
10 mg/m³
Australia TWA
10 mg/m³
Belgium OEL - TWA
10 mg/m³
Bulgaria OEL - TWA
10.0 mg/m³
Estonia OEL - TWA
10 mg/m³
France OEL - TWA
10 mg/m³
Ireland OEL - TWAs
10 mg/m³
Latvia OEL - TWA
5 mg/m³
Lithuania OEL - TWA
10 mg/m³
OSHA - Final PELS - TWAs:
15 mg/m³
Portugal OEL - TWA
10 mg/m³
Slovakia OEL - TWA
6 mg/m³
Spain OEL - TWA
10 mg/m³

Morphine Sulfate
Pfizer Occupational Exposure Band (OEB):
OEB 3 (control exposure to the range of >10ug/m³ to < 100ug/m³)
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hands:</td>
<td>Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.</td>
</tr>
<tr>
<td>Eyes:</td>
<td>Wear safety glasses or goggles if eye contact is possible.</td>
</tr>
<tr>
<td>Skin:</td>
<td>Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.</td>
</tr>
<tr>
<td>Respiratory protection:</td>
<td>If airborne exposures are within or exceed the Occupational Exposure Band (OEB) range, wear an appropriate respirator with a protection factor sufficient to control exposures to the bottom of the OEB range.</td>
</tr>
</tbody>
</table>

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Capsule</td>
</tr>
<tr>
<td>Color</td>
<td>Various According to product specification</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>Mixture</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>Mixture</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Stability</td>
<td>Stable under normal conditions of use.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Fine particles (such as dust and mists) may fuel fires/explosions.</td>
</tr>
<tr>
<td>Incompatible Materials</td>
<td>As a precautionary measure, keep away from strong oxidizers</td>
</tr>
</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
<td>&gt; 1600 mg/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Povidone</td>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
<td>100 g/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc (non-asbestiform)</td>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
<td>461 mg/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Povidone</td>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
<td>235 mg/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
<td>600 mg/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>Intravenous</td>
</tr>
<tr>
<td>LD50</td>
<td>156 mg/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium lauryl sulfate</td>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
<td>1288 mg/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar</td>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
<td>29700 mg/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
<td>14000 mg/kg</td>
</tr>
</tbody>
</table>
## 11. TOXICOLOGICAL INFORMATION

### Irritation / Sensitization: (Study Type, Species, Severity)

**Fumaric acid**
- Eye Irritation: Rabbit, Moderate
- Skin Irritation: Rabbit, Mild

**Sodium lauryl sulfate**
- Eye Irritation: Rabbit, Moderate
- Skin Irritation: Rabbit, Mild Moderate
- Skin Sensitization - GPMT: Guinea Pig, Negative
- Skin Sensitization - LLNA: Mouse, Negative

### Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

**Morphine Sulfate**
- 18 Week(s) Oral 60 g/kg LOAEL: Lungs
- 15 Day(s) Subcutaneous 3144 mg/kg LOAEL: Kidney, Ureter, Bladder
- 9 Week(s) Subcutaneous 3150 mg/kg LOAEL

### Reproduction & Developmental Toxicity: (Study Type, Species, Route, Dose, End Point, Effect(s))

**Morphine Sulfate**
- Embryo / Fetal Development Mouse Subcutaneous 0.15 mg/kg LOAEL: Teratogenic
- Embryo / Fetal Development Hamster Subcutaneous 35 mg/kg LOAEL: Teratogenic
- Embryo / Fetal Development Mouse Oral 200 mg/kg LOAEL: Teratogenic
- Embryo / Fetal Development Rat Subcutaneous 35 mg/kg LOAEL: Fetotoxicity

### Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

**Morphine Sulfate**
- In Vivo Micronucleus: Mouse, Positive
- In Vivo Chromosome Aberration: Mouse Lymphocytes, Positive
- In Vitro Direct DNA Damage: Human Lymphocytes, Positive
- In Vitro Chromosome Aberration: Mouse, Negative
- Dominant Lethal Assay: Drosophila, Negative

**Sodium lauryl sulfate**
- Bacterial Mutagenicity (Ames): Salmonella, Negative

### Carcinogen Status:
None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA.

**Talc (non-asbestiform)**
- IARC: Group 3 (Not Classifiable)

**Povidone**
- IARC: Group 3 (Not Classifiable)
12. ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties of the formulation have not been thoroughly investigated. Releases to the environment should be avoided.

Sodium lauryl sulfate
*Oncorhynchus mykiss* (Rainbow Trout)  
LC50  96 Hours  3.6 mg/L

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

14. TRANSPORT INFORMATION

The following refers to all modes of transportation unless specified below.

Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>EU Symbol:</th>
<th>Xn</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU Indication of danger:</td>
<td>Harmful</td>
</tr>
<tr>
<td></td>
<td>Toxic to reproduction, Category 2</td>
</tr>
<tr>
<td></td>
<td>Mutagenic: Category 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EU Risk Phrases:</th>
</tr>
</thead>
<tbody>
<tr>
<td>R22 - Harmful if swallowed.</td>
</tr>
<tr>
<td>R61 - May cause harm to the unborn child.</td>
</tr>
<tr>
<td>R64 - May cause harm to breastfed babies.</td>
</tr>
<tr>
<td>R68 - Possible risk of irreversible effects.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EU Safety Phrases:</th>
</tr>
</thead>
<tbody>
<tr>
<td>S22 - Do not breathe dust.</td>
</tr>
<tr>
<td>S36/37 - Wear suitable protective clothing and gloves.</td>
</tr>
<tr>
<td>S53 - Avoid exposure - obtain special instructions before use.</td>
</tr>
</tbody>
</table>

OSHA Label: WARNING
15. REGULATORY INFORMATION

Harmful if swallowed.
May cause harm to the unborn child.
May cause harm to breastfed babies.
Suspected of causing genetic defects.

Canada - WHMIS: Classifications

WHMIS hazard class:
D1b toxic materials
D2a very toxic materials

Talc (non-asbestiform)

- Inventory - United States TSCA - Sect. 8(b)
- Australia (AICS):
- EU EINECS/ELINCS List

Ammonio methacrylate coploymer

- Inventory - United States TSCA - Sect. 8(b)
- Australia (AICS):

Sodium lauryl sulfate

- Inventory - United States TSCA - Sect. 8(b)
- Australia (AICS):
- Standard for the Uniform Scheduling
  for Drugs and Poisons:
- EU EINECS/ELINCS List

Povidone

- Inventory - United States TSCA - Sect. 8(b)
- Australia (AICS):

Fumaric acid

- CERCLA/SARA Hazardous Substances and their Reportable Quantities:
- Inventory - United States TSCA - Sect. 8(b)
- Australia (AICS):
- EU EINECS/ELINCS List

Sugar

- Inventory - United States TSCA - Sect. 8(b)
- Australia (AICS):
- REACH - Annex IV - Exemptions from the obligations of Register:
- EU EINECS/ELINCS List

Morphine Sulfate

- U.S. Drug Enforcement Administration:

PZ01563
15. REGULATORY INFORMATION

Australia (AICS): Present
EU EINECS/ELINCS List: 200-582-8

Additional Information: U.S. Drug Enforcement Agency Controlled Drug Substance, Schedule II

16. OTHER INFORMATION

Text of R phrases mentioned in Section 3

R22 - Harmful if swallowed.
R61 - May cause harm to the unborn child.
R64 - May cause harm to breastfed babies.
R68 - Possible risks of irreversible effects.

Data Sources:
Safety data sheets for individual ingredients. Publicly available toxicity information. Pfizer proprietary drug development information.

Prepared by:
Product Stewardship Hazard Communication
Pfizer Global Environment, Health, and Safety Operations

Pfizer Inc believes that the information contained in this Material Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.

End of Safety Data Sheet