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

Product identifier
Chemical Name Gatifloxacin, Zymaxid Ophthalmic Solution 0.5%

Other means of identification
Product Code FP-63
Synonyms Gatifloxacin

Recommended use of the chemical and restrictions on use
Recommended Use conjunctivitis

This safety data sheet is written to provide health, safety and environmental information for people handling this formulated product in the workplace. It is not intended to provide information relevant to medicinal use of the product. In this instance patients should consult prescribing information/package insert/product label or consult their pharmacist or physician. For health and safety information for individual ingredients used during manufacturing, refer to the appropriate safety data sheet for each ingredient.

Details of the supplier of the safety data sheet
Manufacturer Allergan plc
5 Giralda Farms
Madison, NJ USA 07940
+1-800-272-5525

E-mail address SDS@Allergan.com

Emergency telephone number
Emergency Telephone Call CHEMTREC Day or Night
Within USA or Canada: 1-800-424-9300
Outside USA and Canada: +1-703-741-5970 (collect calls accepted)

2. HAZARDS IDENTIFICATION

Classification
OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Effects on or via lactation Yes

Label elements

Emergency Overview

Hazard statements
H362 - May cause harm to breast-fed children

Appearance Liquid
Physical state Liquid Odor No information available

Chemical Name Gatifloxacin
Symptoms Most common adverse reactions occurring in >1% of patients included worsening of conjunctivitis, eye irritation, dysgeusia, and eye pain.

Medical Conditions Aggravated by Exposure None
Precautionary statements
P201 - Obtain special instructions before use
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P263 - Avoid contact during pregnancy/while nursing
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P308 + P313 - IF exposed or concerned: Get medical advice/attention

Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>EINECS</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PURIFIED WATER USP</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>40 - 70*</td>
</tr>
<tr>
<td>SODIUM CHLORIDE USP</td>
<td>7647-14-5</td>
<td>231-598-3</td>
<td>15 - 40*</td>
</tr>
<tr>
<td>Gatifloxacin</td>
<td>180200-66-2</td>
<td>N/A</td>
<td>0.1 - 1*</td>
</tr>
<tr>
<td>EDETATE DISODIUM USP</td>
<td>6381-92-6</td>
<td>N/A</td>
<td>0.1 - 1*</td>
</tr>
<tr>
<td>Benzalkonium Chloride</td>
<td>63449-41-2</td>
<td>264-151-6</td>
<td>&lt;0.1*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures
Eye contact
Rinse immediately with plenty of water and seek medical advice.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation
Remove to fresh air.

Ingestion
Consult a physician if necessary.

Chemical Name
Gatifloxacin

Note to physicians
In the event of overdosage or toxic reactions, peritoneal dialysis or hemodialysis will aid in the removal of gentamicin from the blood. These procedures are of particular importance in patients with impaired renal function.

Benzalkonium Chloride
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
None known.

Specific hazards arising from the chemical
Fire may produce irritating, corrosive and/or toxic gases.

Explosion data
Sensitivity to Mechanical Impact
Not impact sensitive.

Sensitivity to Static Discharge
Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

Use personal protection recommended in Section 8. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Environmental precautions**

See Section 12 for additional ecological information.

**Methods for containment**

Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Avoid creating dust.

### 7. HANDLING AND STORAGE

**Advice on safe handling**

Avoid contact with skin, eyes or clothing. Avoid generation of dust. Do not eat, drink or smoke when using this product.

**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials.

**Incompatible materials**

None known based on information supplied.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Allergan OEL (ug/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gatifloxacin</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>400</td>
</tr>
<tr>
<td>180200-66-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**

**Engineering Controls**

The following requirements list high level controls designed to control exposure below the OEL. More specific requirements may apply.

**Powder Handling**

LEV or Down flow booth or ventilated enclosure

**Solutions/Suspensions and coated tablet handling (no powders or aerosols)**

Not Applicable

**Packaging (uncoated tablets, hot side work)**

LEV at hopper and filter

**Laboratory Powder Handling or aerosol generation**

VBSE, BSC or Glove Box

**Personal Decontamination Procedure/Controls**

Not Applicable

**Individual protection measures, such as personal protective equipment**

**PPE**

The following high level PPE requirements assume Engineering Controls that reduce exposure below the limit are not in place. More specific requirements may apply.

**Powder Handling**

1/2 mask, gloves, long sleeved GMP clothing and safety equipment for the area

**Solutions/Suspensions and coated**

Gloves, long sleeved GMP clothing and safety equipment for the area
tablet handling (no powders or aerosols)
Packaging (uncoated tablets, hot side work) Gloves, long sleeved GMP clothing and safety equipment for the area
Laboratory Powder Handling or aerosol generation Minimum required Lab PPE, gloves

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No information available</td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Other Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>No information available</td>
</tr>
<tr>
<td>VOC Content (%)</td>
<td>No information available</td>
</tr>
<tr>
<td>Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
Not defined As Reactive substance

Chemical stability
Stable under normal conditions.
Possibility of Hazardous Reactions
None under normal processing.
Conditions to avoid
Aerosol formation.
Incompatible materials
None known based on information supplied.
Hazardous Decomposition Products
None known based on information supplied.
### 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

**Acute toxicity**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD₅₀ (Rat)</th>
<th>Dermal LD₅₀</th>
<th>Inhalation LC₅₀</th>
</tr>
</thead>
<tbody>
<tr>
<td>PURIFIED WATER USP</td>
<td>&gt; 90 mL/kg</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>SODIUM CHLORIDE USP</td>
<td>= 3000 mg/kg</td>
<td>&gt; 10 g/kg (Rabbit)</td>
<td>&gt; 42 g/m³ (Rat) 1 h</td>
</tr>
<tr>
<td>Gatifloxacin</td>
<td>=&gt;5000 mg/kg oral rat</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Benzalkonium Chloride</td>
<td>N/A</td>
<td>= 1420 mg/kg (Rat)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Germ cell mutagenicity</th>
<th>Carcinogenicity</th>
<th>Reproductive toxicity</th>
<th>Effects on or via lactation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gatifloxacin</td>
<td>In genetic toxicity tests, this medication was positive in 1 of 5 strains used in bacterial reverse mutations assays: Salmonella strain TA102. This medication was positive in in vitro mammalian cell mutation and chromosome aberration assays. This medication was positive in in vitro unscheduled DNA synthesis in rat hepatocytes but not human leukocytes. This medication was negative in in vivo micronucleus tests in mice, cytogenticstest in rats, and DNA repair test in rats. The findings may be due to the inhibitory effects of high concentrations on eukaryotic type II DNA topoisomerase.</td>
<td>There was no increase in neoplasms among B6C3F1 mice given this medication in the diet for 18 months at doses averaging 81 mg/kg/day in males and 90mg/kg/day in females. These doses are approximately 1600-fold and 1800-fold higher respectively, than the maximum recommended ophthalmic dose of 0.05 mg/kg/day in 50kg human. There was no increase in neoplasms among Fischer 344 rats given this medication in the diet for 2 years at doses averaging 47 mg/kg/day in males and 139 mg/kg/day in females (900 and 2800 fold higher, respectively than the maximum recommended ophthalmic dose). A statistically significant increase in the incidence of large granular lymphocyte leukemia was seen in males treated with a high dose of approximately 2000 fold higher than the maximum recommended ophthalmic dose. Fischer 344 rats have a higher spontaneous background rate of LGL leukemia and the incidence in high dose males only slightly exceeded the historical control range established for this strain.</td>
<td>There were no adverse effects on fertility or reproduction in rats given this medication orally at doses up to 200 mg/kg/day (approximately 4500 fold higher than the maximum recommended ophthalmic dose for this medication).</td>
<td>This medication is excreted in breast milk of rats. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when this medication is administered to a nursing woman.</td>
</tr>
<tr>
<td>Benzalkonium Chloride</td>
<td>Not Suspected of being a Mutagen.</td>
<td>No information available.</td>
<td>No information available.</td>
<td></td>
</tr>
</tbody>
</table>

#### Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document.

**ATEmix (oral)** 9506 mg/kg
12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM CHLORIDE USP 7647-14-5</td>
<td>N/A</td>
<td>4747 - 7824: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 5560 - 6080: 96 h Lepomis macrochirus mg/L LC50 flow-through 6420 - 6700: 96 h Pimephales promelas mg/L LC50 static 7050: 96 h Pimephales promelas mg/L LC50 semi-static 12946: 96 h Lepomis macrochirus mg/L LC50 static 6020 - 7070: 96 h Pimephales promelas mg/L LC50 static</td>
<td>340.7 - 469.2: 48 h Daphnia magna mg/L EC50 Static 1000: 48 h Daphnia magna mg/L EC50</td>
</tr>
</tbody>
</table>

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Do not reuse container. Dispose of contents/containers in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

ICAO (air)

Not regulated

IATA

Not regulated

IMDG

Not regulated

ADR

Not regulated

ADN

Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>TSCA</th>
<th>Not Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL/NDSL</td>
<td>Not Listed</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>No</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

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

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>PURIFIED WATER USP 7732-18-5</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

Revision Date 02-Oct-2018
Revision Note No information available
Disclaimer
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.

End of Safety Data Sheet