SAFETY DATA SHEET

This Safety Data Sheet (SDS) complies with the requirements of the U.S. Federal Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200, as updated in 2012, and state equivalent standards) and the Canadian Hazardous Products Regulations (SOR/2015-17) and the United Nations Globally Harmonized System of Classification of Chemicals, as well as European Union requirements under REACH (Registration, Evaluation, Authorization and Restriction of Chemical substances, per EC 1907/2006) and EC 1272/2008. Refer to Section 16 of this document for the definition of terms and abbreviations.

SECTION 1: IDENTIFICATION of the Substance/Mixture and of the Company/Undertaking

1.1 PRODUCT IDENTIFIER:

- PRODUCT NAME: **OBETICHOLIC ACID TABLETS (YELLOW)**
- SYNONYMS: INT-747, I18
- PRODUCT DOSAGES: 5 mg and 10 mg
- CHEMICAL NAME/CLASS: 3α, 7-α-dihydroxy-6-α-ethyl-5β-cholan-24-oic acid; Bile Acid Analogs, Pharmaceutical Mixture

1.2 RELEVANT IDENTIFIED USES OF THE MIXTURE OR USES ADVISED AGAINST

- IDENTIFIED USE: Pharmaceutical Use: This product is used for the treatment of specific liver and gastrointestinal disorders.
- USES ADVISED AGAINST: None Specified.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

- SUPPLIER: **Intercept Pharma Europe Ltd.**
- ADDRESS: 1st Floor, Two Pancras Square, London, N1C 4AG
- BUSINESS PHONE: +44 2038 0576 00
- EMERGENCY PHONE: +44 2038 0576 00

1.4 OTHER PERTINENT INFORMATION

- *This product is sold to pharmacies and pharmaceutical distributors in tablet form for use in treatment of specific medical conditions. Each unit is a small quantity product (each tablet approximately 208 mg), packaged in units of not over 1 kg. This document has been developed to specifically address safety concerns affecting small volume handling situations and those associated with warehouses and other distribution workplaces, reflecting the specific chemical hazards and safety precautions for handling such packaging. It is reasonably anticipated that employees of such facilities will not ingest or otherwise expose themselves to this substance in a manner likely to induce symptoms described in the literature related to the use of this product in medical treatments. This document will detail such health effects, as appropriate, for informational purposes only.*

SECTION 2: HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE: As a pharmaceutical product, this product would be labeled under applicable regulations governing drugs and medications. The following information is provided for guidance to employees who may handle packaging of this product.

REGULATION	CLASSIFICATION
OSHA HAZARD COMMUNICATION (GHS)	Not applicable.
REACH/CLP (GHS)	Not applicable.

SECTION 2: HAZARDS IDENTIFICATION (Continued)

2.2 LABEL ELEMENTS:

- BASED ON GLOBALLY HARMONIZED SYSTEM AND CURRENT REGULATIONS (e.g., OSHA/CLP)

Symbol: Not applicable.
Signal Word: Not applicable.
Hazard Statement: Not applicable.
Precautionary Statements: Not applicable.

2.3 OTHER PERTINENT DATA ON CHEMICAL AND PHYSICAL HAZARDS:

- **EMERGENCY OVERVIEW:** The following information relates to emergency response situations pertaining to OCA –Yellow Tablets.

PHYSICAL DESCRIPTION: This product is comprised of yellow tablets that are odorless.

HEALTH HAZARDS: No significant health hazards are anticipated under typical circumstances of use or release response. This product may be harmful if swallowed.

FIRE HAZARDS: In tablet form, this product does not present a significant fire hazard.

PHYSICAL HAZARDS: Negligible under typical circumstances of use or reasonably anticipated emergency response situations.

ENVIRONMENTAL HAZARDS: This product is not anticipated to cause adverse environmental effects.

- **HAZARDOUS MATERIALS IDENTIFICATION SYSTEM**

Health	**0**
Flammability	**0**
Physical Hazard	**0**
Protective Equipment	**B**

HMIS Personal Protective Equipment Rating:
Occupational Use situations: B; Safety glasses and gloves, as appropriate to standard laboratory practices and test being conducted.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1/3.2 SUBSTANCES/MIXTURES

COMPONENT	CAS NUMBER	EINECS #	GHS Classification	% (w/w)
TABLET CONTENT				
OCA (Obeticholic Acid)	459789-99-2	Not Established	Not Established	2 - 5%
Sodium Starch Glycolate	9063-38-1	Not Established	Not Established	6%
Magnesium Stearate	557-04-0	209-150-3	Skin irritation (Category 2); Eye irritation (Category 2A); Specific Target Organ Toxicity – Single Exposure (Category 3, Respiratory irritation)	1%
Microcrystalline Cellulose	9004-34-6	232-674-9	Not Established	75 - 90%
TABLET COATING				
Titanium Dioxide	13463-67-7	236-675-5	Not Established	0.2 – 2%
Polyethylene Glycol	25322-68-3	500-038-2	Not Established	0.2 – 2%
Talc	14807-96-6	238-877-9	Not Established	0.2 – 2%
REMAINDER				
Non-active ingredients that do not contribute to the occupational hazards associated with this product (e.g., dyes, fillers, binders, lubricant, etc.)				Balance

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

Eyes: Flush with copious amounts of water for 15 minutes. "Roll" eyes during flush. Seek medical attention immediately. **Skin:** Flush area with warm, running water. Seek medical advice if symptoms occur. **Inhalation:** Obtain fresh air. Obtain medical attention if symptoms occur. **Ingestion:** Contact a Poison Control Center or physician for instructions.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS/ACUTE AND DELAYED

- **ACUTE:** The main hazard associated with this product in an occupational setting would be mechanical irritation of the eye, or slight irritation upon contact with the particulates from crushed or damaged tablets. Inhalation of dust/powder can be irritating to the nose, throat, and other tissues of the respiratory system. Symptoms of exposure are generally alleviated when overexposure ends.
- **CHRONIC:** No long-term effects related to chronic exposures are anticipated from occupational use situations involving this product.
- **TARGET ORGANS:** Acute: Eyes, skin (mechanical irritation). Chronic: None.

4.3 INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

- **RECOMMENDATIONS TO PHYSICIANS**: Treat symptoms and eliminate overexposure. In the event of an acute overdose, the patient should be carefully observed and given supportive treatment.
- **MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** No known medical conditions are anticipated to be aggravated by occupational exposure to this product.

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

- **RECOMMENDED FIRE EXTINGUISHING MEDIA:** Water Spray, Water Jet, Dry Powder, Foam, Carbon Dioxide, Halon, or any other.
- **UNSUITABLE FIRE EXTINGUISHING MEDIA:** None known.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

NFPA FLAMMABILITY CLASSIFICATION: Not flammable.

UNUSUAL HAZARDS IN FIRE SITUATIONS: When involved in a fire, this material may produce irritating vapors and toxic gases (e.g., carbon monoxide, carbon dioxide).

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

5.3 ADVICE FOR FIREFIGHTERS

Wear Self Contained Breathing Apparatus and full protective equipment for fire response. Move containers from fire area if it can be done without risk to personnel. Otherwise, use water spray to keep fire-exposed containers cool. Contaminated equipment should be rinsed thoroughly with water before returning to service.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

- **RESPONSE TO INCIDENTAL RELEASES:** Personnel who have received basic chemical safety training can generally handle small-scale releases. Wear gloves and safety glasses when cleaning-up spills.
- **RESPONSE TO NON-INCIDENTAL RELEASES:** Generally, releases of this product will be no larger than the loss of one shipment of material (therefore under 1 kg). Subsequently, personnel can follow the instructions for incidental releases. As needed, respond to non-incidental chemical releases of this product (such as the simultaneous destruction of several pallets of this product) by clearing the impacted area and contacting appropriate emergency personnel.

SECTION 6: ACCIDENTAL RELEASE MEASURES (Continued)

- **RESPONSE PROCEDURES FOR ANY RELEASE**: Carefully sweep up spilled items, as to avoid breaking tablets. Sponge area around spill with a damp polypad or other absorbent to ensure all dusts/powder is removed. Discard spilled tablets.

6.2 ENVIRONMENTAL PRECAUTIONS

- Avoid response actions that can cause a release of a significant amount of the substance (1 kg or more) into the environment.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

- **SPILL RESPONSE EQUIPMENT:** Polypad or other absorbent material, if needed.

6.4 REFERENCES TO OTHER SECTIONS

- **SECTION 8:** For exposure levels and detailed personal protective equipment recommendations.
- **SECTION 13:** For waste handling guidelines.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

- **HYGIENE PRACTICES:** Keep out of reach of children**.** Follow good laboratory hygiene practices. Do not smoke, drink, eat, or apply cosmetics in the pharmaceutical use area. Avoid inhalation of dusts or particulates. Use in well-ventilated area. Avoid contact with skin or eyes. Remove contaminated clothing promptly. Clean up spilled product immediately.

- **HANDLING RECOMMENDATIONS:** Employees must be appropriately trained to use this product safely as needed.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

- **STORAGE RECOMMENDATIONS:** Ensure all containers are correctly labeled. Store away from direct sunlight, sources of intense heat, or where freezing is possible. Store this product away from incompatible chemicals (See Section 10, Stability and Reactivity).

- **STORAGE TEMPERATURE:** Store at controlled room temperature [A temperature maintained thermostatically that encompasses the usual and customary working environment of 20^{o} - 25^{o} C (68^{o}-77 ^{o}F); that results in a mean kinetic temperature calculated to be not more than 25^{o}C; and that allows for excursions between 15^{o}-30^{o}C (59^{o}-86^{o}F) that are experienced in pharmacies, hospitals, and warehouses.]

7.3 SPECIFIC END USES

- **RECOMMENDATIONS:** Place product away from children and animals.
- **INDUSTRIAL-SECTOR SPECIFIC SOLUTIONS**: PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT - Follow practices indicated in Section 6 (Accidental Release Measures).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

- **U.S. NATIONAL EXPOSURE LIMITS:**

COMPONENT	ACGIH TLV	OSHA PEL	NIOSH REL	OTHER
OCA (Obeticholic Acid)	NE	NE	NE	NE
Sodium Starch Glycolate	NE	NE	NE	NE
Magnesium Stearate	NE	NE	NE	NE

COMPONENT	ACGIH TLV	OSHA PEL	NIOSH REL	OTHER
Microcrystalline Cellulose	10 mg/m3(TWA)	15 mg/m3 (TWA, Total Dust) 5 mg/m3 (TWA, Respirable Fraction)	NE	NE
Titanium Dioxide	10 mg/m3(TWA)	15 mg/m3 (TWA, Total Dust)	Lowest feasible Concentration	NE
Polyethylene Glycol	NE	NE	NE	AIHA WEEL: 10 mg/m3 (TWA)
Talc (Not containing asbestos)	2 mg/m^3 (Respirable Fraction, TWA)	20 mppcf (containing <1 percent quartz, TWA)	2 mg/m^3 (containing <1 percent quartz, Respirable Fraction, TWA)	NE
Particulates – Not Otherwise Classified (PNCO); applies to airborne dust exposures	TWA = 10 mg/m^3 (Total Dust); 3 mg/m^3 (Respirable Dust)	NE	NE	NE

- **INTERNATIONAL EXPOSURE LIMITS:**

Magnesium Stearate
Lithuania OEL-TWA: 5 mg/m³
Sweden OEL-TWA: 5 mg/m³

Microcrystalline Cellulose
Belgium OEL-TWA: 10 mg/m³
Estonia OEL-TWA: 10 mg/m³
Ireland OEL-TWA: 10 mg/m³ Respirable Dust; 4 mg/m³ Inhalable Fraction
Latvia OEL-TWA: 2 mg/m³
Portugal OEL-TWA: 10 mg/m³
Romania OEL-TWA: 10 mg/m³
Spain OEL-TWA: 3 mg/m³
Switzerland OEL-TWA: 10 mg/m³

Titanium Dioxide
Australia TWA: 10 mg/m³
Austria OEL-MAKs: 5 mg/m³ (Short time); 10 mg/m^3 (Maximum)
Belgium OEL-TWA: 10 mg/m³
Bulgaria OEL-TWA: 10.0 mg/m³
Croatia OEL: 10 mg/m³ Inhalable Dust; 4 mg/m³ Respirable Dust
Denmark OEL-TWA: 6 mg/m³ (TWA); 12 mg/m^3 (STEL)
Estonia OEL-TWA: 5 mg/m³
France OEL-TWA: 10 mg/m³
Greece OEL-TWA: 10 mg/m³ Respirable Dust; 5 mg/m³ Inhalable Fraction
Ireland OEL-TWA: 10 mg/m³ Respirable Dust; 4 mg/m³ Inhalable Fraction
Italy OEL-TWA: 10 mg/m³
Latvia OEL-TWA: 10 mg/m³
Lithuania OEL-TWA: 5 mg/m³
Norway OEL-TWA: 5 mg/m³
Poland OEL-TWA: 10.0 mg/m³
Portugal OEL-TWA: 10 mg/m³
Romania OEL-TWA: 10 mg/m³
Slovakia OEL-TWA: 5 mg/m³
Spain OEL-TWA: 10 mg/m³; 15 mg/m^3 (STEL)
Sweden OEL-TWA: 5 mg/m³
Switzerland VME: 3 mg/m^3 Respirable Aerosol
United Kingdom WEL 10 mg/m³ Inhalable Particulates; 4 mg/m³ Respirable Particulate

Polyethylene Glycol
Austria OEL-MAKs: 1000 mg/m³ (TWA); 4000 mg/m³ (STEL)
Denmark OEL-TWA: 1000 mg/m³ (TWA); 2000 mg/m³ (STEL)
Germany (DFG)-MAK: 1000 mg/m³ (average molecular weight 200-600)); 8000 mg/m3 (Maximum)
Slovakia OEL-TWA: 1000 mg/m³
Slovenia OEL-TWA: 1000 mg/m³
Switzerland VME: 1000 mg/m³
Talc (not containing asbestos)
Australia TWA: 2.5 mg/m³
Austria OEL-MAKs: 2 mg/m³
Belgium OEL-TWA: 2 mg/m³
Bulgaria OEL-TWA: 1.0 fiber/cm^3; 6 mg/m³ Respirable Dust; 3 mg/m³ Inhalable Fraction
Czech Republic OEL-TWA: 2 mg/m³
Denmark OEL-TWA: 0.3 fiber/cm^3
Finland OEL-TWA: 2 mg/m³ (Talc, granular, breathable dust) 1 mg/m³ (Talc, granular, alveoli fraction) 0.5 mg/m³ (Talc, fibrous)
Greece OEL-TWA: 10 mg/m³ Respirable Dust; 2 mg/m³ Inhalable Fraction
Hungary OEL-TWA: 2 mg/m³
Ireland OEL-TWA: 10 mg/m³ Respirable Dust; 0.8 mg/m³ Inhalable Fraction
Lithuania OEL-TWA: 2 mg/m³ Respirable Dust; 1 mg/m³ Inhalable Fraction
Netherlands OEL-TWA: 0.25 mg/m³
Poland OEL-TWA: 4.0 mg/m³ Respirable Dust; 1.0 mg/m³ Inhalable Fraction
Portugal OEL-TWA: 2 mg/m³
Romania OEL-TWA: 2 mg/m³
Slovakia OEL-TWA: 2 mg/m³ Respirable Dust; 10 mg/m³ Inhalable Fraction
Slovenia OEL-TWA: 2 mg/m³
Spain OEL-TWA: 2 mg/m³
Sweden OEL-TWA: 2 mg/m³ Respirable Dust; 1 mg/m³ Inhalable Fraction
Switzerland VME: 2 mg/m³

Particulates Not Otherwise Classified
Belgium: 10 mg/m³, TWA, Inhalable; 3 mg/m³ TWA, Respirable
France: 10 mg/m³, TWA Inhalable dust; 5 mg/m³, TWA Respirable dust
Italy: 10 mg/m³, TWA, Inhalable; 3 mg/m³, TWA, Respirable

- **ENGINEERING CONTROLS:** Follow prudent practices associated with all chemical substances. Use this product in well-ventilated environment. Safety showers, eye wash stations, and hand-washing equipment should be available.
- **BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS:** Not established.
- **DERIVED NO EFFECT LEVEL (DNEL):** Not established.
- **PREDICTED NO EFFECT CONCENTRATION (PNEC):** Not established.

8.2 EXPOSURE CONTROLS

- **ENGINEERING CONTROLS:** Use this product in well-ventilated environment. Safety showers, eye wash stations, and hand-washing equipment should be available.
- **RESPIRATORY PROTECTION:** None needed under routine circumstances of use or handling.
- **HAND PROTECTION:** Nitrile, latex, or neoprene gloves should be used.
- **EYE PROTECTION:** Splash goggles or safety glasses with side shield are recommended if contact with broken tablets or dusts/particulates from this product may occur.
- **BODY PROTECTION:** Protection appropriate for work situation involving tablets (e.g., lab coat).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

(a) APPEARANCE: Yellow solid; tablet.
(b) ODOR: None.
(c) ODOR THRESHOLD: Not determined.
(d) pH: Not determined.
(e) MELTING POINT/FREEZING POINT: Not determined.
(f) INITIAL BOILING POINT AND BOILING RANGE: Not applicable.
(g) FLASH POINT: Not applicable.
(h) EVAPORATION RATE (water=1): Not applicable
(i) FLAMMABILITY: Not flammable.
(j) UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: Not applicable.
(k) VAPOR PRESSURE (mmHg @ 20˚C): Not applicable.
(l) VAPOR DENSITY: Not applicable.
(m) RELATIVE DENSITY (water=1): No data**.**
(n) SOLUBILITY: Soluble in water**.**
(o) PARTITION COEFFICIENT: N-OCTANOL/WATER: 5.54 (for OCA)**.**
(p) AUTO-IGNITION TEMPERATURE: Not determined.
(q) DECOMPOSITION TEMPERATURE: Not determined.
(r) VISCOSITY: Not applicable.
(s) EXPLOSIVE PROPERTIES: Not applicable.
(t) OXIDIZING PROPERTIES: Not an oxidizer.

9.2 OTHER INFORMATION

- **VOC (less water & exempt):** Not applicable.
- **WEIGHT% VOC:** Not applicable.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY

- Not reactive under typical conditions of use or handling.

10.2 CHEMICAL STABILITY

- Normally stable under standard temperatures and pressures.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

- This product is not self-reactive, water-reactive, or air-reactive; it will not undergo hazardous polymerization**.**

10.4 CONDITIONS TO AVOID

- Avoid contact with incompatible chemicals.

10.5 INCOMPATIBLE MATERIALS

- This product is not compatible with strong oxidizers.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

- Products of thermal decomposition of this product can include carbon monoxide, carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

- **ACUTE TOXICITY:**
  - **PRODUCT TOXICITY DATA:**
    - Acute Toxicity Estimate (oral) > 300 mg/kg
    - Acute Toxicity Estimate (dermal) > 2000 mg/kg
    - Acute Toxicity Estimate (inhalation) > 20 mg/L
  - **COMPONENT TOXICITY DATA:** The following data are available for components of this product.

OCA (Obeticholic Acid)
LD_{50} (oral, rat) = >300 mg/kg
No Observable Effect Level (Dog) = 15 mg/kg/day for 9 months
No Observable Effect Level (Rat) = 6 mg/kg/day for 6 months
- Acute dosing in normal volunteers up to 500 mg/day with one patient exhibiting possibly related adverse effect (stomach ache)
- 1 year dosing up to 50 mg/day in patients with primary biliary cirrhosis with minimal adverse effects (mainly itching).
- 5 year dosing up to 50 mg/day in patients with primary biliary cirrhosis with minimal adverse effects (mainly itching).
- NOTE: Potential hepatic toxicity with repeat ingestion of >100 mg/day

Microcrystalline Cellulose
LD_{50} (oral, rat) > 5000 mg/kg
LD_{50} (dermal, rabbit) > 5000 mg/kg
Irritancy Test (eye, rabbit) = Not irritating.
Irritancy Test (skin, rabbit) = Skin, rabbit

Magnesium Stearate
LD_{50} (oral, rat) > 2000 mg/kg
LD_{50} (skin, rabbit) > 2000 mg/kg

Talc
Irritancy Test (skin, human) = 300 µg/3 days – Intermittent; Mild

Titanium Dioxide
LD_{50} (oral, rat) > 10 g/kg
LD_{50} (oral, mouse) > 10 g/kg
TCLo (inhalation, rat) =250 mg/m^3/6 hours/2 years
LD (inhalation, rat) > 2.29 mg/L/4 hours
LC (skin, rabbit) > 6.82 mg/L
Irritancy Test (skin, rabbit) = Slightly
Irritancy Test (skin, human) = Low
Irritancy Test (eye, rabbit) = Slightly
Sensitizing Test (skin, human) = Not sensitizing

Polyethylene Glycol
LD_{50} (oral, rat) > 22 g/kg
LD_{50} (oral, mouse) > 28 g/kg
LD_{50} (oral, rabbit) ≥ 14 g/kg
Draize Test (skin, rabbit) = 500 mg/24 hours; Mild
Draize Test (eye, rabbit) = 500 mg/24 hours; Mild

  - **DEGREE OF IRRITATION:** Potentially mild mechanical irritation.
  - **SENSITIZATION:** Not reported to have skin or respiratory sensitization effects.
  - **REVIEW OF ACUTE SYMPTOMS AND EFFECTS:** See Section 2 (Hazards Information) and Section 4 (First-Aid Measures) for details.
    - **EYES:** Contact with broken tablets may cause mild mechanical eye irritation.
    - **SKIN**: Contact with broken tablets may cause mild mechanical skin irritation.
    - **INHALATION:** Contact with dusts from broken tablets may cause mild mechanical irritation of the mucous membranes of the nose, throat, and mouth.
    - **INGESTION:** Ingestion may cause health effects as described in Section 4.
- **CHRONIC TOXICITY:**
  - **CARCINOGENICITY STATUS:** The following table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be, or suspected to be, a carcinogen by the listed agency.

CHEMICAL	IARC	NTP	NIOSH	OSHA	OTHER
OCA (Obeticholic Acid)	NO	NO	NO	NO	NO
Sodium Starch Glycolate	NO	NO	NO	NO	NO
Magnesium Stearate	NO	NO	NO	NO	NO
Microcrystalline Cellulose	NO	NO	NO	NO	NO
Titanium Dioxide	2B (Possibly Carcinogenic to Humans)	NO	Carcinogen	NO	MAK-3A (Substances of Concern) TLV-A4 (Not Classifiable as a Human Carcinogen)
Polyethylene Glycol	NO	NO	NO	NO	NO
Talc (*Not containing asbestos*)	3 (Unclassifiable)	NO	NO	NO	MAK-3B (Substances of Concern) TLV-A4 (Not Classifiable as a Human Carcinogen)

SECTION 11: TOXICOLOGICAL INFORMATION (Continued)

- **REPRODUCTIVE TOXICITY INFORMATION:** This product is not anticipated to cause adverse reproductive effects under typical circumstances of exposure under routine work situations. Under clinical studies, reproductive toxicity is reported at doses >20 mg/kg/day (levels unanticipated for occupational exposure situations).
- **MUTAGENIC EFFECTS** The components of this product are not reported to cause mutagenic effects under typical circumstances of occupational exposure.
- **SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE:** Not applicable.
- **SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE:** Potential for reversible hepatic toxicity with repeat ingestion of >100 mg/day

- **OTHER INFORMATION**
  - **TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1 TOXICITY

- Based on available data, this product is not anticipated to be harmful to contaminated plants or animals.
- Based on available data, this product may be harmful to contaminated aquatic plants or animals.
- The following toxicity data are available for components of this product.

Microcrystalline Cellulose
48-hour LC50 > 100%, saturated solution, NOEC = 100% (daphnia)
96-hour LC50 > 100%, saturated solution, NOEC = 100% (rainbow trout)
96-hour EC50 > 100%, saturated solution, NOEC = 12.5% (algae)

Titanium Dioxide
LC50 (static), Fish (Leuciscus idus): ≥ 1000 mg/L; 48 hours
EC0 (Daphnia) = 3 mg/L, 30 Days
EC100 (Daphnia) = 1000 mg/L; 18 Days
EC100 (Daphnia) = 500 mg/L; 30 Days

Polyethylene Glycol
LC50, Fish (Goldfish) > 5000 mg/L; 24 hours
EC50, (Bacteria, Phytobacterium phosphoreum) = 100,000 mg/L; 15 minutes; Microtox test

12.2 PERSISTENCE AND DEGRADABILITY

- When released into the soil, the components of this product are expected to biodegrade, dissipate in soils via oxidation, or otherwise chemically degrade or photo-decompose via solar radiation.
- Additional information is available on the active ingredient of this product:
  - Under the requirements of the European Medicines Agency, a Phase I Environmental Assessment was conducted for the active ingredient of this product [OCA (Obeticholic Acid)]. At a pH of 7.4, which is environmentally relevant for surface waters, the measured log D was 2.98. Over a pH of 6 to 9 (more broadly environmentally relevant), log D ranged from approximately 4.3 to 1.7. Given these results, the criterion for lipophilicity (log Kow or log D) of >4.5 is not met, and screening of this component for persistence, bioaccumulation and toxicity is not required.

12.3 BIOACCUMULATIVE POTENTIAL

- It is not anticipated that this product will bioaccumulate or bioconcentrate significantly in the environment.

12.4 MOBILITY IN SOIL

- The tablets are soluble in water and can be expected to have some mobility in soil. Some of the components may then migrate to the ground water.

SECTION 12: ECOLOGICAL INFORMATION (Continued)

12.5 PREDICTED ENVIRONMENTAL CONCENTRATION

- Under the requirements of the European Medicines Agency, a Phase I Environmental Assessment was conducted for the active ingredient of this product [OCA (Obeticholic Acid)]. Its Predicted Environmental Concentration PEC of 0.007035 µg/L is thus below the action limit of 0.01 µg/L, and therefore OCA is unlikely to present a risk for the environment.

12.6 OTHER ADVERSE EFFECTS

- ENDROCRINE DISRUPTOR INFORMATION: No component is reported to be an endocrine disruptor.

SECTION 13: DISPOSAL CONSIDERATION

13.1 WASTE TREATMENT METHODS

- **WASTE HANDLING RECOMMENDATIONS:** Prepare, transport, treat, store, and dispose of waste product according to all applicable local, U.S. State and U.S. Federal regulations, the applicable Canadian standards, or the appropriate standards of the nations of the European Community.

13.2 DISPOSAL CONSIDERATIONS

- **EPA RCRA WASTE CODE:** Not applicable. **EUROPEAN WASTE CODE:** Not applicable.

SECTION 14: TRANSPORT INFORMATION

14.1 DANGEROUS GOODS BASIC DESCRIPTION AND OTHER TRANSPORT INFORMATION

- **DEPARTMENT OF TRANSPORTATION HAZARDOUS MATERIALS SHIPPING REGULATIONS:**

UN/NA Number	Proper Shipping Name	Packing Group	Hazard Class	Label	North American Emergency Response Guide #	Marine Pollutant Status
NOT APPLICABLE						

- **CANADIAN TRANSPORTATION INFORMATION**: This product is NOT regulated by Transport Canada as dangerous goods under Canadian transportation standards.
- **IATA DESIGNATION**: This product is NOT regulated as dangerous goods by the International Air Transport Association.
- **IMO DESIGNATION**: This product is NOT regulated as dangerous goods by the International Maritime Organization.

14.2 ENVIRONMENAL HAZARDS

- None described, as related to transportation.

14.3 SPECIAL PRECAUTIONS FOR USERS

- Not applicable.

14.4 TRANSPORT IN BULK

- Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH, AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE MIXTURE.

- **OTHER IMPORTANT U.S. REGULATIONS**
  - **U.S. TSCA INVENTORY STATUS:** This product is exempt from TSCA regulations, as it is used in pharmaceutical applications, per Section 3 (2)(B)(vi).
  - **CERCLA REPORTING REQUIREMENTS:** Not applicable.
  - **SARA REPORTING REQUIREMENTS:** Not applicable.
  - **SARA SECTION 311/312 FOR PRODUCT:** Not applicable.
  - **CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) STATUS:** Not applicable.

    Titanium Dioxide (airborne, unbound particles of respirable size) is listed as a chemical known to the State of California to cause cancer; this classification is not applicable to the compound as it exists in this product.

- **INTERNATIONAL REGULATIONS**
  - **CANADIAN DSL/NDSL INVENTORY STATUS:** This product is regulated by the Therapeutics Products Programme, and is exempted from inventory reporting requirements.
  - **CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:** The components of this product are not on the CEPA Priorities Substances Lists.
  - **GERMAN WATER HAZARD CLASSIFICATION:** 1 (low hazard to waters)

15.2 CHEMICAL SAFETY ASSESSMENT.

- No information available.

SECTION 16: OTHER INFORMATION

16.1 INDICATION OF CHANGE.

- **DATE OF REVISION:** June 21, 2017
- **CHANGE INDICATED:** Review and update of airborne exposure data, confirmation of current toxicology information, and evaluation of current regulatory requirements.
- **ORIGINAL DATE OF ISSUE:** September 26, 2014.

16.2 KEY LITERATURE REFERENCES AND SOURCES FOR DATA

- SAFETY DATA SHEETS FOR COMPONENT PRODUCTS
- Regulations (EC) No 1907/2006 and 1272/2008 of the European Parliament and of the Council
- Federal OSHA Hazard Communication Standard: 29 CFR 1910.1200
- SAX – Dangerous Properties of Industrial Materials
- RTECS – Registry of Effects of Toxic Chemicals
- ESIS -European Chemical Substances Information System http://esis.jrc.ec.europa.eu/
- REACH (Registration, Evaluation, Authorization and Restriction of Chemical substances, per EC 1907/2006

16.3 CLASSIFICATION AND PROCEDURE USED TO DERIVE THE CLASSIFICATIONS FOR MIXTURES

- **CLASSIFICATION**: Section 2 (Hazards Information) provides all relevant classification information used for this product. The assignments were based on data available for the component products, calculations, expert judgment, and weight of evidence.

SECTION 16: OTHER INFORMATION (Continued)

16.4 DEFINITIONS

ALL SECTIONS: OSHA: U.S. Federal Occupational Safety and Health Administration. WHMIS: Canadian Workplace Hazardous Materials Standard. GHS: Globally Harmonized System of Classification of Chemical Substances. REACH: European Union regulation, Registration, Evaluation, Authorization and Restriction of Chemical substances.

SECTION 2: HAZARDOUS MATERIALS IDENTIFICATION SYSTEM RATING: This is a rating system used by industry to summarize physical and health hazards to chemical users and was originally developed by the National Paint and Coating Association. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.

SECTION 3: CAS Number: Chemical Abstract Service Number, which is used by the American Chemical Society to uniquely identify a chemical. EINECS: European Inventory of Existing Commercial Substances.

SECTION 5: NFPA: National Fire Protection Association. NFPA FLAMMABILITY CLASSIFICATION: The NFPA uses the flash point (Fl.P.) and boiling point (BP) to classify flammable or combustible liquids. Class IA: Fl.P. below 73°F and BP below 100°F. Class IB: Fl.P. below 73°F and BP at or above 100°F. Class IC: Fl.P. at or above 73°F and BP at or above 100°F. Class II: Fl.P. at or above 100°F and below 140°F. Class IIIA: Fl.P. at or above 140°F and below 200°F. Class IIIB: Fl.P. at or above 200°F. NFPA HAZARDOUS MATERIALS RATING: This is a rating system used to summarize physical and health hazards to firefighters. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.

SECTION 8: NE: Not established. ACGIH: American Conference of Government Industrial Hygienists; TWA: Time-Weighted Average (over an 8-hour work day); STEL: Short-Term Exposure Limit (15-minute average, no more than 4-times daily and each exposure separated by one-hour minimally); C: Ceiling Limit (concentration not to be exceeded in a work environment). PEL: Permissible Exposure Limit. NIOSH: National Institute of Occupational Safety and Health; REL: Recommended Exposure Limit; IDLH: Immediately Dangerous to Life and Health Concentrations. *Note*: In July 1992, a court ruling vacated the more protective PELs set by OSHA in 1989. Because OSHA may enforce the more protective levels under the "general duty clause", both the current and vacated levels are presented in this document. ppm: Parts per Million. mg/m^3: Milligrams per cubic meter. mppcf: Millions of Particles per Cubic Foot. AIHA WEEL: American Industrial Hygiene Association Workplace Environmental Exposure Limit. BEI: Biological Exposure Limit. EL: Exposure Limit (United Kingdom). MAK: Maximale Arbeitsplatzkonzentration/ Maximum Concentration Values in the Workplace: TRGS: Technische Regeln für Gefahrstoffe (Technical Rule for Hazardous Materials). VME: Valeur Moyenne d'Exposition (Mean Exposure Value) . OEL: Occupational Exposure Limit. TLV: Threshold Limit Value.

SECTION 9: pH: Scale (0 to 14) used to rate the acidity or alkalinity of aqueous solutions. For example, a pH value of 0 indicates a strongly acidic solution, pH of 7 indicates a neutral solution, and a pH value of 14 indicates an extremely basic solution. FLASH POINT: Temperature at which a liquid generates enough flammable vapors so that ignition may occur. AUTOIGNITION TEMPERATURE: Temperature at which spontaneous ignition occurs. LOWER EXPLOSIVE LIMIT (LEL): The minimal concentration of flammable vapors in air which will sustain ignition. UPPER EXPLOSIVE LIMIT (UEL): The maximum concentration of flammable vapors in air which will sustain ignition. ≈: Approximately symbol.

SECTION 11/12: CARCINOGENICITY STATUS: NTP: National Toxicology Program. IARC: International Agency for Research on Cancer. REPRODUCTIVE TOXICITY INFORMATION: Mutagen: Substance capable of causing chromosomal damage to cells. Embryotoxin: Substance capable of damaging the developing embryo in an overexposed female. Teratogen: Substance capable of damaging the developing fetus in an overexposed female. Reproductive toxin: Substance capable of adversely affecting male or female reproductive organs or functions. TOXICOLOGY DATA: LD*xx* or LC*xx*: The Lethal Dose or Lethal Concentration of a substance which will be fatal to a given percentage (*xx*) of exposed test animals by the designate route of administration. This value is used to assess the toxicity of chemical substances to humans. TD*xx* or TC*xx*: The Toxic Dose or Toxic Concentration of a substance which will cause an adverse effect to a given percentage (*xx*) of exposed test animals by the designate route of administration. NOEC/NOAEL: No Observable Effect Concentration/ Level.

SECTION 13: RCRA: Resource Conservation and Recovery Act. The regulations promulgated under this Act are found in 40 CFR, Sections 260 ff, and define the requirements of hazardous waste generation, transport, treatment, storage, and disposal. EPA RCRA Waste Codes: Defined in 40 CFR Section 261.

SECTION 15: CERCLA: Comprehensive Environmental Response Compensation and Liability Act (a.k.a. "Superfund") and SARA: (Superfund Amendment and Reauthorization Act). The regulations promulgated under this Act are located under 40 CFR 300 ff. and provide "community right-to-know" requirements. DSL/NDSL: Canadian Domestic Substances and Non-Domestic Substances Lists.