

## Material Safety Data Sheet

### Section 1 –Product and Company Identification

|                               |   |
|-------------------------------|---|
| MSDS Name                     | <b>MAS<sup>®</sup> Liquimmune Control – Liquid Assayed Immunoassay Control</b>  |
| Catalog Number                | LIG-101, LIG-202, LIG-303, LIG-S1   |
| Description                   | Liquid Assayed Immunoassay Control  |
| Synonyms                      | LIG-101 MAS <sup>®</sup> Liquimmune Liquid Assayed Control, Level 1 (6 x 5 mL)<br>LIG-202 MAS <sup>®</sup> Liquimmune Liquid Assayed Control, Level 2 (6 x 5 mL)<br>LIG-303 MAS <sup>®</sup> Liquimmune Liquid Assayed Control, Level 3 (6 x 5 mL)<br>LIG-S1 MAS <sup>®</sup> Liquimmune Liquid Assayed Control, sample pack (3 x 5 mL) |
| Company Identification        | Microgenics Corporation   |
| Office Address                | 46360 Fremont Blvd.   |
| City, State, Zip Code         | Fremont, CA 94538   |
| Company Phone Number          | (510) 979-5000  |
| Emergency Phone Number        | (510) 979-5000  |
| CHEMTREC Phone Number, US     | (800) 424-9300  |
| CHEMTREC Phone Number, Europe | (202) 483-7616  |

### Section 2 –Hazard Identification

Caution! This material contains substance of human origin. Even though tests are negative for infectious diseases, this product should be handled as a potentially infectious biological material. By normal use the product is not regarded as hazardous to health. The product is not classified as flammable or harmful to the environment; may cause eyes, skin, digestive track, and respiratory track irritation. The toxicological properties of this material have not been fully investigated. This product is not classified as dangerous in accordance with Directive 1999/45/EC or 67/548/EEC

### Section 3 – Composition/Information on Ingredients

| CAS #              | Component Name  | Content      | EINECS/ELINCS |
|--------------------|---|--------------|---------------|
| 20830-75-5         | Digoxin   | 0.001-0.008% | 244-068-1     |
| 298-46-4           | Carbamazepine   | 0.001-0.008% | 206-062-7     |
| 50-28-2            | Estadiol  | 0.001-0.008% | 200-023-8     |
| 1405-41-0          | Gentamicin  | 0.001-0.008% | 215-778-9     |
| 50-06-6            | Phenobarbital   | 0.001-0.008% | 200-007-0     |
| 630-93-3           | Phenytoin   | 0.001-0.008% | 211-148-2     |
| 125-33-7           | Primadone   | 0.001-0.008% | 204-737-0     |
| 57-83-0            | Progesterone  | 0.001-0.008% | 200-350-6     |
| 58-22-0            | Testosterone  | 0.001-0.008% | 200-370-5     |
| 49842-07-1         | Tobramycin  | 0.001-0.008% | 256-499-2     |
| 99-66-1            | Valproic acid   | 0.001-0.008% | 202-777-3     |
| N/A                | Human Serum   | 60-70%       | N/A           |
| 7732-18-5          | Water   | 39.9-29.9%   | 231-791-2     |
| Component comments | have no OSHA, Canadian, or EU hazardous ingredients above applicable threshold. The product contains salts and stabilizer |              |               |

### Section 4 – First Aid Measures

|                    |  |
|--------------------|--|
| Eyes               | In case of contact immediately remove any contact lenses, hold the eyelids apart and flush eyes with plenty of water for at least 15 minutes. Consult physician if symptoms should occur |
| Skin               | In case of contact remove contaminated clothing immediately, wash area with soap and flush with plenty of water. Get medical attention if irritation develops and persists               |
| Ingestion          | If swallowed, do not induce vomiting unless directed to do so by medical personnel. Drink plenty of water. Get medical attention   |
| Inhalation         | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult physician  |
| Notes to Physician | Treat symptomatically  |

**Section 5 – Fire Fighting Measures**

|                               |  |
|-------------------------------|--|
| Personal protective equipment | Combustion products may be health hazardous. In case of evacuation use OSHA/NIOSH (or equivalent) approved protection mask. See section 8  |
| Flammable properties          | Liquid product is not combustible; solid product may burn  |
| Extinguishing Media           | All common fire extinguishing agents may be used   |
| Protection of Firefighters    | Minimum protection for all firefighters should include a self-containing breathing apparatus (SCBA) an full fire-fighting turn out gear. Upon decomposition this product may emit carbon dioxide, carbon monoxide and/or low molecular weight hydrocarbons |
| NFPA Rating (estimated)       | Health: 1; Flammability: 0; Instability: 0   |
| HMIS Rating (estimated)       | Health: 1; Flammability: 0; Instability: 0   |

**Section 6 – Accidental Release Measures**

|                           |  |
|---------------------------|--|
| Personal precautions      | Use proper personal protective equipment as indicated in Section 8. Keep unnecessary personnel away  |
| Environmental precautions | Product is not water pollutant. Keep out of drains, sewers, ditches and open waterways.  |
| Methods for containment   | If without risk prevent further spread of spilled material or leaking containers. Where possible dike the spilled material. Absorb spill with inert material e.g. vermiculite, sand or diatomaceous earth  |
| Methods for clean-up      | Clean up spills immediately, observing precautions in the Exposure Controls/Personal Protection, Section 8. Place in suitable container and provide ventilation. Wash area with a 5% chlorine bleach solution or equivalent, then rinse with water |
| Other information         | For reporting requirements refer to Section 15   |

**Section 7 – Handling and Storage**

|          |  |
|----------|--|
| Handling | Keep container tightly closed. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Use with adequate ventilation. Material produced in compliance to USDA and/or CPMP/BWP/1230/98 (or amendment as applicable) (Guidance on Minimizing the Risk of Transmitting Animal Spongiform Encephalopathy Agents via Medicinal Products). This is a CPMP/BWP/1230/98 Category IV material: It does not contain, nor is it derived from Specified Risk Materials as defined in Commission decision 97/534/EC (or successive amendments). This material is prepared from a human source base. Donors have been tested by FDA approved methods and found negative for antibodies to HIV-1 and HIV-2, non-reactive for HBsAg, and non-reactive for HCV. Handle as potentially infectious material. This material should be handled at the biosafety level 2 (BSL2) as required by OSHA Bloodborne Pathogen Rule (29 CFR 1910.1030.7) and consistent with the U.S. Department of Health and Human Services, the U.S. Public Health Service, Centers for Disease Control (CDC), and National Institute of Health (NIH) guidelines "Biosafety in Microbiological and Biomedical Laboratories" (May 1988, HHS Publication No. (NIH) 88-8395) |
| Storage  | Store in a tightly closed container. For shelf life, store between 2° to 8°C   |

**Section 8 – Exposure Controls/ Personal Protection**

**Occupational Exposure Limits**

**Chemical Name – Digoxin**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name – Carbamazepine**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name – Estadiol**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Section 8 – Exposure Controls/ Personal Protection- continued**

**Chemical Name – Gentamicin**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name – Phenobarbital**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name - Phenytoin**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name - Primadone**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name - Progesterone**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name - Testosterone**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name - Tobramycin**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name - Valproic acid**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name – Human serum**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Chemical Name - Water**

| OSHA PEL   |            |            |            |            | ACGIH TLV  |            |            | AIHA       |            | NIOSH REL  |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ceiling    | TWA        | STEL       | Final      | Vacated    | Ceiling    | TWA        | STEL       | WEEL       | OEL        | Ceiling    | TWA        | STEL       | IDLH       |
| Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

**Exposure Guidelines**

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

**Engineering Controls**

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations below the permissible exposure limits. Ventilation fans and other electrical service must be non-sparking and have an explosion-proof design

**Section 8 – Exposure Controls/ Personal Protection- continued**

**Personal Protective Equipment**

|                                |  |
|--------------------------------|--|
| Eye/Face protection            | Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166                           |
| Skin protection                | Wear appropriate protective gloves to prevent skin exposure. No skin irritation expected   |
| Respiratory protection         | A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use |
| General Hygiene Considerations | Wear appropriate protective clothing to prevent skin exposure  |

**Section 9 – Physical and Chemical Properties**

|                              |                |  |                |
|------------------------------|----------------|--|----------------|
| Appearance                   | Clear          | Flash point  | No information |
| Odor and odor threshold      | No information | Flammable properties                                   | No information |
| Physical State               | Liquid         | Solubility in water                                    | Miscible       |
| PH                           | 5-8            | Density/specific Gravity                               | No information |
| Vapor density                | No information | Evaporation rate                                       | No information |
| Boiling point                | No information | Octanol/Water partition coefficient (K <sub>ow</sub> ) | No information |
| Vapor pressure               | No information | Auto-ignition temperature                              | No information |
| Melting Point/Freezing Point | No information | Decomposition Temperature                              | No information |

**Section 10 – Stability and Reactivity**

|                                    |  |
|------------------------------------|--|
| Chemical Stability                 | Stable at room temperature in closed containers under normal storage and handling conditions |
| Conditions to Avoid                | Excess heat  |
| Incompatible Materials             | None reported  |
| Hazardous Decomposition Products   | None   |
| Possibility of hazardous reactions | Has not been reported  |

**Section 11 – Toxicological Information**

|                                    |  |
|------------------------------------|--|
| Acute dose effect (LD50/LC50)      |  |
| CAS# 20830-75-5                    | Oral, mouse: LD50 = 17780 ug/kg    Oral, rat: LD50 = 28270 ug/kg   |
| CAS# 298-46-4                      | Oral, mouse: LD50 = 529 mg/kg    Oral, rabbit: LD50 = 2680 mg/kg<br>Oral, rat: LD50 = 1957 mg/kg   |
| CAS# 50-28-2                       | Subcutaneous, rat: TDLo=10 ug/kg    Intraperitoneal, rat: TDLo=150 ug/kg<br>Subcutaneous, mouse: TDLo=1090 ng/kg    Intraperitoneal, mouse: TDLo=1.5 ug/kg   |
| CAS# 1405-41-0                     | Oral, mouse: LD50 = >11269 mg/kg    Oral, rat: LD50 = >5 gm/kg   |
| CAS# 50-06-6                       | Oral, rat: LD50 = 162 mg/kg    Intraarterial, rat: LD50 = 151 mg/kg<br>Subcutaneous, rat: LD50 = 200 mg/kg    Intravenous, rat: LD50 = 209 mg/kg<br>Rectal, rat: LD50 = 284 mg/kg    Oral, mouse: LD50 = 137 mg/kg<br>Intraperitoneal, mouse: LD50 = 116 mg/kg    Subcutaneous, mouse: LD50 = 228 mg/kg<br>Intravenous, mouse: LD50 = 218 mg/kg    Intramuscular, mouse: LD50 = 175 mg/kg<br>Oral, rabbit: LD50 = 185 mg/kg    Intravenous, rabbit: LD50 = 187 mg/kg |
| CAS# 630-93-3                      | Oral, mouse: LD50 = >11269 mg/kg    Oral, rat: LD50 = >5 gm/kg   |
| CAS# 125-33-7                      | Oral, mouse: LD50 >280 mg/kg    Oral LD50 Rat=1500 mg/kg   |
| CAS#57-83-0                        | Intraperitoneal, rat: LD50=327 mg/kg    Intravenous, mouse: LDLo=100 mg/kg<br>Intraperitoneal, mouse: TDLo=16 mg/kg    Intramuscular, rat: TDLo=1000 ug/kg<br>Subcutaneous, Rat: TDLo=25 mg/kg    Subcutaneous, rabbit: TDLo=0.15 mg/kg<br>Intraperitoneal, rat: TDLo=280 mg/kg    Implant Skin, rat: TDLo=250 mg/kg   |
| CAS# 49842-07-1                    | Oral, mouse: LD50 >10500 mg/kg   |
| CAS# 99-66-1                       | Oral, mouse: LD50 = 1098 mg/kg    Oral, rat: LD50 = 670 mg/kg  |
| CAS# 7732-18-5                     | Oral, rat: LD50 =998.21 mg/cm <sup>3</sup> @20°C   |
| Repeated dose effect (NOAEL, LOEL) |  |
| CAS# 50-06-6                       | Oral, woman: LDLo = 25272 ug/kg/13D-I    Oral, man: LDLo = 6485 ug/kg/2W-I<br>Intraperitoneal, rabbit: LDLo = 150 mg/kg    Subcutaneous, rabbit: LDLo = 150 mg/kg<br>Oral, cat; LDLo = 125 mg/kg    Subcutaneous cat; LDLo = 125 mg/kg   |

**Section 11 – Toxicological Information - continued**

CAS# 50-28-2 Oral, rat: TDLo=45 mg/kg/90D (continuous) Oral, woman: TDLo=1.12 mg/kg/4W (intermittent)  
 Intraperitoneal, rat: TDLo=750 ug/kg/15D (intermittent)  
 Subcutaneous, rat: TDLo=4200 ug/kg/12W (intermittent)  
 Intraperitoneal, mouse: TDLo=30 ug/kg/3D (intermittent)  
 Subcutaneous, mouse: TDLo=0.99 ug/kg/3D (intermittent)

CAS#57-83-0 Intraperitoneal, rat: TDLo=750 mg/kg/15D (intermittent)  
 Intraperitoneal, mouse: TDLo=277.5 mg/kg/5D (intermittent)  
 Subcutaneous, rabbit: TDLo=1.3 mg/kg/5D (intermittent)

CAS#58-22-0 Intraperitoneal, rat: TDLo=7500 ug/kg/15D (intermittent)  
 Intraperitoneal, mouse: TDLo=55.5 mg/kg/5D (intermittent)  
 Subcutaneous, rat: TDLo=1.4 mg/kg/7D (intermittent)  
 Oral, rabbit: TDLo=130 mg/kg/13D (intermittent)

Irritation prolonged exposure may cause irritation  
 Corrosivity *No information found*  
 Sensitization (inhalation, dermal, ocular) prolonged exposure may cause dermal irritation  
 Genotoxicity Genotoxic properties are not known  
 Teratogenicity Teratogenic properties are not known  
 Mutagenicity Mutagenic properties are not known

CAS# 50-28-2 Human Mammary gland, DNA synthesis=10 nmol/L  
 Human Lymphocyte, DNA inhibition=10 umol/L  
 Oral, rat: Morphological transformation=21 mg/kg/6W (continuous)

CAS#58-22-0 Human Lymphocyte, DNA inhibition=50 umol/L  
 Human Kidney, DNA inhibition=100 ug/L  
 Parenteral, rat: DNA synthesis=10 mg/kg

CAS# 50-06-6 DNA inhibition, rat Liver = 1500 umol/L Cytogenetic analysis, Human Lymphocyte = 10 mg/L  
 Reproductive system effect Reproductive system properties are not known

CAS# 50-28-2 Oral, woman: TDLo=4400 ug/kg female 31 week(s) pre-mating  
 Oral, rat: TDLo=1 gm/kg female 4-8 day(s) after conception  
 Intraperitoneal, rat: TDLo=1280 ng/kg male 8 day(s) pre-mating  
 Subcutaneous, rat: TDLo=2400 ng/kg female 3 day(s) pre-mating

CAS#57-83-0 Oral, woman: TDLo=200 mg/kg female 20 day(s) pre-mating  
 Intramuscular, man: TDLo=50 mg/kg male 70 day(s) pre-mating

CAS#58-22-0 Oral, rat: TDLo=100 mg/kg female 17-20 day(s) after conception  
 Subcutaneous, rat: TDLo=25 mg/kg female 17 day(s) after conception  
 Intramuscular, rat: TDLo=60 mg/kg female 3-7 day(s) after conception

CAS# 50-06-6 Oral, woman: TDLo = 151 mg/kg female 27-39 week(s) after conception  
 Oral, rat: TDLo = 880 mg/kg female 7-17 day(s) after conception  
 Intraperitoneal, rat: TDLo = 1 gm/kg female 1-20 day(s) after conception  
 Subcutaneous, rat: TDLo = 320 mg/kg multigenerations  
 Subcutaneous, rat: TDLo = 750 mg/kg female 1 day(s) pre-mating  
 Intramuscular, rat: TDLo = 200 mg/kg female 18-20 day(s) after conception

Carcinogenicity (IARC, NTP, OSHA (NIOSH & ACGIH)) or CA Prop 65  
 None of the components present in this material at concentrations equal to or greater than 0.1% are listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65  
 IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC  
 ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH  
 NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
 OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  
 CAS# 20830-75-5 Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65  
 CAS# 298-46-4: This product contains a component that has been reported as being a probable developmental carcinogen by ACGIH, IARC, EPS, NTP, OSHA, CA Prop 65, initial date January 29, 1999  
 CAS# 50-28-2 This product contains a component that has been reported as being a probable carcinogen based on ACGIH, IARC, EPA, NTP, OSHA, and CA Prop 65, initial date January 1, 1988

**Section 11 – Toxicological Information - continued**

|                                |  |           |
|--------------------------------|--|-----------|
| CAS# 1405-41-0:                | This product contains a component that has been reported as being a probable developmental carcinogen (listed as Aminoglycosides) by ACGIH, IARC, EPA, NTP, OSHA, and CA Prop 65, initial date October 1, 1992 |           |
| CAS# 50-06-6 ACGIH:            | Not listed, California: carcinogen; initial date 1/1/90, NIOSH: Not listed, NTP: Not listed, OSHA: Possible Select carcinogen IARC: Group 2B carcinogen  |           |
| CAS# 630-93-3                  | Not listed as a carcinogen by ACGIH, NIOSH, NTP, OSHA, IARC - Group 2B (Possibly Carcinogenic to Humans), Evidence of carcinogen; initial date January 1, 1988   |           |
| CAS# 125-33-7                  | This product contains a component that has been reported as being a probable carcinogen based on ACGIH, IARC, EPA, NTP, OSHA, and CA Prop 65; initial date 8/20/99   |           |
| CAS#57-83-0                    | This product contains a component that has been reported as being a probable carcinogen by ACGIH, IARC, EPA, NTP, OSHA, and CA Prop 65, , initial date January 1, 1988   |           |
| CAS#58-22-0                    | This product contains a component that has been reported as being a probable carcinogen by ACGIH, IARC – Group 2A, EPA, NTP, OSHA, and CA Prop 65, initial date April 1, 1988                                  |           |
| CAS# 49842-07-1                | This product contains a component that has been reported as being a probable developmental carcinogen, by ACGIH, IARC, EPA, NTP, OSHA, and CA Prop 65, initial date July 1, 1990                               |           |
| CAS# 99-66-1:                  | This product contains a component that has been reported as being a probable developmental carcinogen, by ACGIH, IARC, EPA, NTP, OSHA, and CA Prop 65,, initial date July 1, 1987                              |           |
| CAS# 7732-18-5:                | Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65   |           |
| Neurotoxicity                  | Neurotoxic properties are not known  |           |
| Tumorigenicity                 | Tumorigenic properties are not known   |           |
| CAS# 50-28-2                   | Intraperitoneal, rat: TDLo=1400 mg/kg/13W (intermittent)   |           |
|                                | Oral, mouse: TDLo=84 mg/kg/20W (continuous)  |           |
|                                | Subcutaneous, pig: TDLo=7 mg/kg/12W (intermittent)   |           |
|                                | Oral, mouse: TD=58 mg/kg/82W (continuous)  |           |
| CAS#57-83-0                    | Subcutaneous, mouse: TD=9500 mg/kg/19W (intermittent)  |           |
|                                | Implant, mouse: TD=1300 mg/kg/78W (intermittent)   |           |
| Target organ effect            | Ingestion of significant amount may cause nausea and vomiting  |           |
| Epidemiology                   | <i>No information found</i>  |           |
| NOES Hazard Codes (NOHS, NOES) | RTECS  |           |
| CAS# 20830-75-5                | X9128  | IH6125000 |
| CAS# 298-46-4                  | X4467  | HN8225000 |
| CAS# 50-28-2                   | 80407  | KG2975000 |
| CAS# 1405-41-0                 | X3126  | LY2625000 |
| CAS# 50-06-6                   | 84369  | CQ6825000 |
| CAS# 630-93-3                  | X4463  | MU1400000 |
| CAS# 125-33-7                  | X4105  | UV9100000 |
| CAS#57-83-0                    | 84510  | TW0175000 |
| CAS#58-22-0                    | X9850  | XA3030000 |
| CAS# 49842-07-1                | X4326  | WK2110000 |
| CAS# 99-66-1                   | X8970  | YV7875000 |
| CAS# 7732-18-5                 | M1000  | ZC0110000 |

**Section 12– Ecological Information**

|                                 |   |
|---------------------------------|---|
| Ecotoxicity                     | Not regarded as dangerous for the environment LC/EC/IC50 > 100 mg/l |
| Persistence/Degradability       | <i>No information found</i>   |
| Bioaccumulation/Accumulation    | <i>No information found</i>   |
| Mobility in Environmental media | Soluble in water  |
| Environmental                   | Not classified as harmful to the environment                        |
| Other Adverse Effects           | <i>No information found</i>   |

**Section 13 – Disposal Considerations**

|                                    |  |
|------------------------------------|--|
| Waste from Residue/Unused Products | Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements. Consult US EPA guidelines for the classification and determination (RCRA 40CFR Parts 261). Chemical waste generators must determine whether discarded chemical is classified as hazardous waste. Ensure complete and accurate classification |
| Contaminated packaging             | Clean container with water   |

**Section 13 – Disposal Considerations - continued**

|                      |   |
|----------------------|---|
| RCRA P Series Wastes | None of the components are on this list   |
| RCRA U Series Wastes | None of the components are on this list   |
| EWC waste code       | 18 01 05 discard as chemicals and medicines   |
| Other Information    | According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the a application for which the product was used |

**Section 14 – Transport Information**

Not regulated as hazardous material under US DOT, TDG, UNECE, ADR, ADN, IATA, ICAO, RID, IMDG/IMO, OTIF, Mexico

**Section 15 – Regulatory Information**

**US Federal**

CAA -HAPs, CAA - Class 1, Class 2 Ozone Depletors, OSHA, OSHA - Highly Hazardous, SDWA, USDA, 21 CFR-IVD – *No information found*

**US State**

**State Right to Know**

CAS# 20830-75-5 can be found on the following state Right-to-Know lists – California -10 lb TQ Delaware- 10 lb DRQ, Massachusetts- 1 lb RQ, New Jersey- SN 2337 TPQ: 10 lb, New York - 1 lb RQ (air); 1 lb RQ (land/water), Ohio - 10 lb TQ (liquid or solution); 500 lb TQ (solid), Pennsylvania, Texas - 10 lb lower threshold TPQ; 10000 lb upper threshold TPQ

CAS#298-46-4 can be found on the following state Right-to-Know lists – California, Main

CAS# 50-28-2 can be found on the following state Right-to-Know lists – California, Illinois, Kentucky, Main, Massachusetts, Minnesota, Pennsylvania, Rhode Island, Wisconsin

CAS# 50-06-6 can be found on the following state Right-to-Know lists – Alabama, Arizona, Colorado, Connecticut, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Massachusetts, Michigan, Minnesota, Mississippi, New Mexico, Ohio, Oregon, Pennsylvania, West Virginia, Wisconsin, Wyoming – Schedule IV Controlled Substances, 2 ug/day NSRL

CAS# 630-93-3 can be found on the following state Right-to-Know lists California, Kentucky, Michigan, New York, Pennsylvania, Wisconsin

CAS# 125-33-7 can be found on the following state Right-to-Know lists – California, Main

CAS#57-83-0 can be found on the following state Right-to-Know lists – California, Connecticut, Illinois, Kentucky, Main, Massachusetts, Minnesota, New Jersey, Pennsylvania, Rhode Island

CAS#58-22-0 can be found on the following state Right-to-Know lists –Arizona, Colorado, Connecticut, Georgia, Idaho, Illinois, Iowa, Kansas, Kentucky, Louisiana, Main, Massachusetts, Minnesota, Mississippi, New Mexico, Ohio, Oregon, Pennsylvania, Wisconsin, Wyoming

CAS# 49842-07-1 can be found on the following state Right-to-Know lists – California, Main

CAS# 99-66-1 can be found on the following state Right-to-Know lists California, Massachusetts

**California Prop 65**

WARNING: This product contains Estradiol, a chemical known to the State of California to cause developmental reproductive toxicity

WARNING: This product contains Carbamazepine, a chemical known to the State of California to cause developmental reproductive toxicity

WARNING: This product contains Gentamicin, sulfate (salt) (listed as Aminoglycosides), a chemical known to the state of California to cause developmental reproductive toxicity

WARNING: This product contains Phenobarbital, a chemical known to the State of California to cause cancer January 1, 1990, California 8 CCR Section 339 - Director's List of Hazardous Substances, California - Air Toxics Hot Spots Act - Emissions Inventory Criteria & Guidelines - Appendix A-III, California - No Significant Risk Levels (NSRL), 2 µg/day, California - Schedule IV Controlled Substances

8 CCR Section 339 - Director's List of Hazardous Substances, Air Toxics Hot Spots Act - Emissions Inventory Criteria & Guidelines - Appendix A-III Substances, Schedule IV Controlled Substances, No Significant Risk Levels (NSRL)

CAS# 630-93-3 8 CCR Section 339 - Director's List of Hazardous Substances, Air Toxics Hot Spots Act - Appendix A-I Substances - Quantified Emissions, Air Toxics Hot Spots Act - Emissions Inventory Criteria & Guidelines - Appendix A-I Substances – ADOA

**Section 15 – Regulatory Information - continued**

WARNING: This product contains Phenytoin, a chemical known to the state of California to cause developmental reproductive toxicity

WARNING: This product contains Primadone, a chemical known to the State of California to cause cancer

WARNING: This product contains Progesterone, a chemical known to the State of California to cause cancer

WARNING: This product contains Tobramycin sulfate, a chemical known to the state of California to cause developmental reproductive toxicity

WARNING: This product contains Testosterone, a chemical known to the State of California to cause cancer

CAS# 99-66-1 Air Toxics Hot Spots Act - Emissions Inventory Criteria & Guidelines - Appendix A-III Substances

WARNING: This product contains Valproic acid, a chemical known to the state of California to cause developmental reproductive toxicity.

**CAS# 20830-75-5**

| TSCA 8(b) | SARA 302       | SARA 313 | CERCLA                                 | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA | DEA |
|-----------|----------------|----------|--|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|-----|
| yes       | 10 lb EPCRA RQ | no       | 10 lb lower TPQ;<br>10000 lb upper TPQ | no          | no        | no         | no    | no  | no           | no     | no       | no  | no  |

**CAS# 298-46-4**

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|
| no        | no       | no       | no     | no          | no        | no         | no    | no  | no           | no     | no       | no  |

**CAS# 50-28-2**

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|
| no        | no       | no       | no     | no          | no        | no         | no    | no  | no           | no     | no       | no  |
| OSHA      |          | CWDA     |        |             |           |            |       |     |              |        |          |     |
| yes       |          | yes      |        |             |           |            |       |     |              |        |          |     |

**CAS# 1405-41-0**

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|
| no        | no       | no       | no     | no          | no        | no         | no    | no  | no           | no     | no       | yes |

CAS# 50-06-6: U.S. - DEA (Drug Enforcement Administration) - Schedule IV Controlled Substances, Product as a whole is not subject to ITAR and EAR regulations

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|
| no        | yes      | no       | no     | no          | no        | no         | no    | no  | yes          | no     |
| CAA-SNAP  |          | FDA      |        | DEA         |           |            |       |     |              |        |
| no        |          | no       |        | yes         |           |            |       |     |              |        |

**CAS# 630-93-3**

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA | OSHA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|------|
| yes       | no       | no       | no     | no          | no        | no         | no    | no  | no           | no     | no       | no  | yes  |

**CAS# 125-33-7**

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA | OSHA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|------|
| no        | no       | no       | no     | no          | no        | no         | no    | no  | no           | no     | no       | no  | no   |

**CAS#57-83-0**

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA | OSHA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|------|
| yes       | no       | no       | no     | no          | no        | no         | no    | no  | no           | no     | no       | yes | yes  |

**CAS# 58-22-0**

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA | OSHA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|------|
| yes       | no       | no       | no     | no          | no        | no         | no    | no  | no           | no     | no       | no  | no   |
| DEA       |          |          |        |             |           |            |       |     |              |        |          |     |      |



DEA Controlled Substances Code Number : 4000

**Section 15 – Regulatory Information - continued**

CAS# 49842-07-1 Substance Need Not Be Reported Unless Manufactured by the Facility

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA | OSHA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|------|
| no        | no       | no       | no     | no          | no        | no         | no    | no  | no           | no     | no       | no  | no   |

CAS# 99-66-1

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|
| no        | no       | no       | no     | no          | no        | no         | no    | no  | no           | no     | no       | no  |

CAS#7732-18-5

| TSCA 8(b) | SARA 302 | SARA 313 | CERCLA | RCRA 261.33 | TSCA 8(d) | TSCA 12(b) | FIFRA | CWC | SARA 311/312 | EPICRA | CAA-SNAP | FDA |
|-----------|----------|----------|--------|-------------|-----------|------------|-------|-----|--------------|--------|----------|-----|
| yes       | no       | no       | no     | no          | no        | no         | yes   | no  | no           | no     | yes      | no  |

**Africa/ Asia-Pacific/Europe Non-EU /EU Member Countries/Latin America and Caribbean/ Middle East/Government Inventory Lists**

CAS# 20830-75-5

| AICS  | New Zealand-GHS | Russia    | ENCS           | Switzerland | Belgium      | PICCS  | Malaysia    | Germany VwVws   | EINECS    |       |            |
|-------|-----------------|-----------|----------------|-------------|--------------|--------|-------------|---|-----------|-------|------------|
| yes   | yes             | no        | no             | no          | no           | yes    | no          | Number 1059, hazard class 3 - severe hazard to waters | 244-068-1 |       |            |
| India | Denmark         | Australia | Czech Republic | Bermuda     | Japan (ENCS) | China  | New Zealand | Thailand  | Austria   | Check | Luxembourg |
| no    | Xn Mut3; R68    | yes       | no             | yes         | yes          | A2062  | no          | no  | no        | no    | no         |
| Malta | Netherlands     | UK        | Philippines    | KE CL       | Bermuda      | Latvia | Estonia     | Lithuania   | Hungary   | EC    | Italy      |
| no    | no              | no        | no             | no          | yes          | no     | no          | no  | no        | no    | no         |

CAS# 298-46-4

| AICS      | New Zealand-GHS        | Russia | ENCS     | Switzerland | Belgium  | PICCS  | Malaysia                         | Singapore | France | EINECS    |
|-----------|------------------------|--------|----------|-------------|--|--------|----------------------------------|-----------|--------|-----------|
| yes       | yes                    | no     | (9)-630  | no          | no   | yes    | yes                              | yes       | no     | 206-062-7 |
| Australia | Japan                  | China  | KECL     | Bermuda     | Germany VwVws                                  | Latvia | Denmark                          | EC        |        |           |
| yes       | 8-(1)-1086; 8-(1)-1088 | yes    | KE-04660 | Yes         | Number 3211, hazard class 2 - hazard to waters | no     | Xn Carc3; R40 Mut3; R68 N R50/53 | no        |        |           |

CAS#50-28-2

| AICS                       | New Zealand-GHS                           | Russia | ENCS    | Switzerland | Belgium   | PICCS | Malaysia              | Australia         | Germany VwVws | EINECS    |
|----------------------------|---|--------|---------|-------------|-----------|-------|-----------------------|-------------------|---------------|-----------|
| yes                        | 6.7A, 6.8A, 6.9B HSNO Approval: HSR003871 | no     | no      | no          | no        | yes   | food of bovine origin | 10 µg/L; 10 µg/kg | no            | 200-023-8 |
| Japan                      | Denmark                                   | KECL   | Bermuda | Latvia      | Lithuania | EC    | France                | China             | Singapore     |           |
| 0.00008 mg/L (provisional) | Xn Repr3; R63 0.1 % de minimus            | no     | yes     | no          | no        | no    | no                    | yes               | yes           |           |

CAS# 1405-41-0

| AICS  | New Zealand-GHS  | Russia | ENCS     | Switzerland | Belgium   | PICCS | Malaysia | Singapore | France | Germany VwVws | EINECS    |
|-------|--|--------|----------|-------------|-----------|-------|----------|-----------|--------|---------------|-----------|
| yes   | 6.5A respiratory, 6.5B contact, 6.9A oral Approval number: HSR003576 | no     | (8)-457  | no          | no        | yes   | no       | no        | no     | no            | 215-778-9 |
| Japan | Thailand   | China  | KECL     | Latvia      | Lithuania | EC    |          |           |        |               |           |
| yes   | Type 3 Hazardous Substance   | yes    | KE-17593 | no          | no        | no    |          |           |        |               |           |

**Section 15 – Regulatory Information - continued**

**CAS# 50-06-6**

| AICS   | New Zealand-GHS | Russia    | ENCS     | Switzerland | Belgium | PICCS | Malaysia | Singapore   | France | Germany VwVws | EINECS    |
|--------|-----------------|-----------|----------|-------------|---------|-------|----------|-------------|--------|---------------|-----------|
| yes    | yes             | yes       | yes      | yes         | no      | yes   | no       | yes         | no     | no            | 200-007-0 |
| Egypt  | South Africa    | Australia | Cambodia | China       | India   | Japan | Korea    | Philippines | Taiwan | Thailand      | Bermuda   |
| yes    | yes             | yes       | yes      | yes         | yes     | yes   | yes      | yes         | yes    | yes           | yes       |
| Latvia | Iceland         | Lithuania | Denmark  | EC          |         |       |          |             |        |               |           |
| no     | yes             | no        | yes      | no          |         |       |          |             |        |               |           |

**CAS# 630-93-3**

| AICS  | New Zealand-GHS | Russia | ENCS   | Switzerland | Belgium | PICCS     | Malaysia | Singapore | Germany VwVws | EINECS    |
|-------|-----------------|--------|--------|-------------|---------|-----------|----------|-----------|---------------|-----------|
| yes   | yes             | no     | no     | no          | no      | no        | no       | no        | no            | 211-148-2 |
| Japan | Denmark         | KECL   | France | Bermuda     | Latvia  | Lithuania | EC       |           |               |           |
| yes   | yes             | yes    | no     | yes         | no      | no        | no       |           |               |           |

**CAS# 125-33-7**

| AICS  | New Zealand-GHS                            | Russia   | ENCS   | Switzerland | Belgium | PICCS     | Malaysia | Singapore | Germany VwVws | EINECS    |
|-------|--|----------|--------|-------------|---------|-----------|----------|-----------|---------------|-----------|
| yes   | May be used as a single component chemical | no       | no     | no          | no      | no        | yes      | yes       | no            | 204-737-0 |
| Japan | Denmark                                    | KECL     | France | Bermuda     | Latvia  | Lithuania | EC       |           |               |           |
| yes   | Xn Carc3; R40 Mut3; R68 Repr3; R63         | KE-13609 | no     | yes         | no      | no        | no       |           |               |           |

**CAS#57-83-0**

| AICS                 | New Zealand-GHS                         | Russia   | ENCS   | Switzerland | Belgium | PICCS     | Malaysia | Singapore       | Germany VwVws | EINECS    |
|----------------------|---|----------|--------|-------------|---------|-----------|----------|-----------------|---------------|-----------|
| yes                  | 6.7B, 6.8B Approval_number: HSR003883   | no       | no     | no          | no      | yes       | yes      | yes             | no            | 200-350-6 |
| Japan                | Denmark                                 | KECL     | France | Bermuda     | Latvia  | Lithuania | EC       | Australia       |               |           |
| 7-(1)-356; 7-(1)-357 | Xn Repr3; R63 N R51/53 0.1 % de minimus | KE-29250 | no     | no          | no      | no        | no       | 1 mg/L; 1 mg/kg |               |           |

**CAS# 58-22-0**

| AICS      | New Zealand-GHS                            | Russia   | ENCS   | Switzerland | Belgium | PICCS     | Malaysia | Singapore       | Germany VwVws | EINECS    |
|-----------|--|----------|--------|-------------|---------|-----------|----------|-----------------|---------------|-----------|
| yes       | May be used as a single component chemical | yes      | no     | no          | no      | yes       | yes      | yes             | no            | 200-370-5 |
| Japan     | Denmark                                    | KECL     | France | Bermuda     | Latvia  | Lithuania | EC       | Australia       | Bulgaria      | China     |
| 7-(1)-462 | yes  | KE-20342 | no     | yes         | no      | no        | no       | 1 mg/L; 1 mg/kg | yes           | yes       |

**CAS#49842-07-1**

| AICS  | New Zealand-GHS | Russia | ENCS   | Switzerland | Belgium | PICCS     | Malaysia | Singapore | Germany VwVws | EINECS    |
|-------|-----------------|--------|--------|-------------|---------|-----------|----------|-----------|---------------|-----------|
| yes   | no              | no     | no     | no          | no      | no        | no       | no        | no            | 256-499-2 |
| Japan | Denmark         | KECL   | France | Bermuda     | Latvia  | Lithuania | EC       |           |               |           |
| no    | no              | no     | no     | no          | no      | no        | no       |           |               |           |

**CAS# 99-66-1**

| AICS | New Zealand-GHS | Russia | ENCS | Switzerland | Belgium | PICCS | Malaysia | Singapore | France | Germany VwVws | EINECS    |
|------|-----------------|--------|------|-------------|---------|-------|----------|-----------|--------|---------------|-----------|
| yes  | yes             | no     | yes  | no          | no      | yes   | yes      | yes       | no     | no            | 202-777-3 |

|           |      |         |        |           |    |
|-----------|------|---------|--------|-----------|----|
| Australia | KECL | Bermuda | Latvia | Lithuania | EC |
| yes       | yes  | yes     | no     | no        | No |

**Section 15 – Regulatory Information - continued**

**CAS#7732-18-5**

|      |             |       |      |       |       |          |         |     |           |
|------|-------------|-------|------|-------|-------|----------|---------|-----|-----------|
| AICS | New Zealand | China | ENCS | Korea | PICCS | Malaysia | Denmark | EC  | EINECS    |
| yes  | yes         | yes   | yes  | yes   | yes   | yes      | yes     | yes | 231-791-2 |

**Advisory Agencies**

**CAS# 20830-75-5**

|      |       |                 |      |      |       |     |      |     |      |     |
|------|-------|-----------------|------|------|-------|-----|------|-----|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | WGK | IARC | SIN |
| no   | no    | no              | no   | no   | no    | yes | no   | no  | no   | no  |

**CAS# 298-46-4**

|      |       |                 |      |      |       |     |      |      |     |
|------|-------|-----------------|------|------|-------|-----|------|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | IARC | WGK |
| yes  | no    | no              | no   | yes  | no    | yes | no   | no   | no  |

**CAS# 50-28-2**

|      |       |                 |      |      |       |     |      |     |      |     |
|------|-------|-----------------|------|------|-------|-----|------|-----|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | WGK | IARC | SIN |
| no   | yes   | yes             | no   | no   | no    | no  | no   | no  | yes  | no  |

**CAS# 1405-41-0**

|      |       |                 |      |      |       |     |      |      |     |
|------|-------|-----------------|------|------|-------|-----|------|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | IARC | WGK |
| no   | no    | no              | no   | yes  | no    | yes | no   | no   | no  |

**CAS# 50-06-6**

|      |       |                 |      |      |       |     |      |     |      |
|------|-------|-----------------|------|------|-------|-----|------|-----|------|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | WGK | IARC |
| no   | no    | no              | no   | no   | no    | yes | no   | no  | yes  |

**CAS# 630-93-3**

|      |       |                 |      |      |       |     |      |      |     |
|------|-------|-----------------|------|------|-------|-----|------|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | IARC | WGK |
| no   | no    | no              | no   | no   | no    | yes | no   | no   | no  |

**CAS# 125-33-7**

|      |       |                 |      |      |       |     |      |      |     |
|------|-------|-----------------|------|------|-------|-----|------|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | IARC | WGK |
| no   | no    | no              | no   | no   | no    | no  | no   | no   | no  |

**CAS# 57-83-0**

|      |       |                 |      |      |       |     |      |     |      |     |
|------|-------|-----------------|------|------|-------|-----|------|-----|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | WGK | IARC | SIN |
| no   | no    | no              | no   | no   | no    | no  | no   | no  | yes  | no  |

**CAS# 58-22-0**

|      |       |                 |      |      |       |     |      |     |      |     |
|------|-------|-----------------|------|------|-------|-----|------|-----|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | WGK | IARC | SIN |
| no   | no    | no              | no   | yes  | no    | no  | no   | no  | yes  | no  |

**CAS# 49842-07-1**

|      |       |                 |      |      |       |     |      |      |     |
|------|-------|-----------------|------|------|-------|-----|------|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | IARC | WGK |
| no   | no    | no              | no   | no   | no    | no  | no   | yes  | no  |

**CAS# 99-66-1**

|      |       |                 |      |      |       |     |      |     |
|------|-------|-----------------|------|------|-------|-----|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | WGK |
| no   | no    | no              | no   | no   | no    | yes | no   | no  |

**CAS# 7732-18-5**

|      |       |                 |      |      |       |     |      |     |
|------|-------|-----------------|------|------|-------|-----|------|-----|
| OECD | OSPAR | Australia Group | ICCA | IPCS | CICAD | WHO | UNEP | WGK |
| yes  | no    | no              | no   | no   | no    | yes | no   | no  |

**Exposure Limits**

**CAS# 630-93-3**

OEL-CALIFORNIA: ADOA (POM) 100 lbs/yr

OEL-KENTUCKY: Significant Level 0.00000051 lbs/hr

OEL-MICHIGAN: TRQ 10 lb

OEL-NEW YORK: RQ 1 lb (air), 1 lb (land/water)

OEL-WISCONSIN: TQ 10 lb/yr Emissions From Stack Heights 25 Feet to Less Than 40 Feet; 23.8 lb/yr Emissions From Stack Heights 40 Feet to Less Than 75 Feet; 83.9 lb/yr Emissions From Stack Heights 75 Feet or Greater; 2.43 lb/yr Emissions From Stack Heights Less Than 25 Feet

**Section 15 – Regulatory Information - continued**

**European Union Directives**

Seveso II Directive (96/82/EC), 67/548/EEC, 2006/15/EC, 98/24/EC, 304/2003, 76/769/EEC, 273/2004, 1277/2005, 2037/2000/EC, Directive 96/59/EC, Directive 79/117/EEC and Directive 91/414/EEC, 2000/479/EC (EPER) , 2002/95/EC (RoHS), 2002/96/EC - WEEE, 2006/11/EC, Directive 98/83/EC - **No information found**

**CAS# 20830-75-5**

|            |                   |  |                        |            |   |
|------------|-------------------|--|------------------------|------------|---|
| 793/93/EEC | 1907/2006 – REACH | EU - CLP 1272/2008) - Annex VI - Table 3.1 | (67/548/EEC) - Annex I | 76/768/EEC | EU - Marketing and Use Directive (76/769/EEC) |
| no         | November 30, 2010 | no   | no                     | no         | no  |

**CAS# 298-46-4**

|            |                   |                   |
|------------|-------------------|-------------------|
| 793/93/EEC | 1907/2006 – REACH | HPV-LPV Chemicals |
| (REPEALED) | yes               | yes               |

**CAS# 50-28-2**

|            |                   |                   |
|------------|-------------------|-------------------|
| 793/93/EEC | 1907/2006 – REACH | HPV-LPV Chemicals |
| no         | November 30, 2010 | no                |

**CAS# 1405-41-0**

|            |                   |
|------------|-------------------|
| 793/93/EEC | 1907/2006 – REACH |
| no         | November 30, 2010 |

**CAS# 50-06-6**

|            |                   |
|------------|-------------------|
| 793/93/EEC | 1907/2006 – REACH |
| yes        | yes               |

**CAS# 630-93-3**

|            |                   |
|------------|-------------------|
| 793/93/EEC | 1907/2006 – REACH |
| no         | yes               |

**CAS# 99-66-1**

|            |                   |                   |
|------------|-------------------|-------------------|
| 793/93/EEC | 1907/2006 – REACH | HPV-LPV Chemicals |
| no         | yes               | yes               |

**CAS# 125-33-7**

|            |                   |                                |
|------------|-------------------|--------------------------------|
| 793/93/EEC | 1907/2006 – REACH | HPV-LPV Chemicals              |
| no         | November 30, 2010 | Low Production Volume Chemical |

**CAS# 57-83-0**

|            |                   |                                |
|------------|-------------------|--------------------------------|
| 793/93/EEC | 1907/2006 – REACH | HPV-LPV Chemicals              |
| no         | November 30, 2010 | Low Production Volume Chemical |

**CAS# 58-2-0**

|            |                   |                   |
|------------|-------------------|-------------------|
| 793/93/EEC | 1907/2006 – REACH | HPV-LPV Chemicals |
| no         | November 30, 2010 | no                |

**CAS# 49842-07-1**

|            |                   |            |
|------------|-------------------|------------|
| 793/93/EEC | 1907/2006 – REACH | 67/548/EEC |
| no         | May 31, 2013      | no         |

**CAS#7732-18-5**

|            |                   |
|------------|-------------------|
| 793/93/EEC | 1907/2006 – REACH |
| yes        | yes               |

**1999/45/EC** - European Labeling in Accordance with EC Directives,  
Hazard Symbols: Not available  
Risk Phrases: Not available  
Safety Phrases: S 24/25 Avoid contact with skin and eyes

**United Nations List**

CAS# 50-06-6 INCB - Schedule IV Substances  
UN, UN/FAO, UNEP - **No information found**

**Section 15 – Regulatory Information - continued**  
**Canada Federal/Provincial Government**

CAS# 20830-75-5

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | no  | no   | no   | no  | no                                      | no                              | no    |

CAS# 298-46-4 Substances Regulated Under F&DA That Were In Commerce Between 1/1/84 and 12/31/86

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | yes | no   | no   | no  | no                                      | no                              | no    |

CAS# 50-28-2 listed on Health Canada

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | yes | no   | no   | no  | no                                      | no                              | no    |

CAS# 1405-41-0 Substances Regulated Under F&DA That Were In Commerce Between 1/1/84 and 12/31/86

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | yes | no   | no   | no  | no                                      | no                              | no    |

CAS# 50-06-6 Controlled Drugs - Schedule IV

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | yes | no   | no   | no  | no                                      | Yes, Schedule IV                | no    |

CAS# 630-93-3

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | no  | yes  | no   | no  | no                                      | no                              | no    |

CAS# 125-33-7

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | yes | no   | no   | no  | no                                      | no                              | no    |

CAS# 57-83-0 Substances in Cosmetics & Personal Care Products Regulated Under the F&DA In Commerce 1/1/87 to 9/13/01

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | yes | no   | no   | no  | no                                      | no                              | no    |

CAS# 58-22-0 Controlled Drugs - Schedule IV

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | yes | no   | no   | no  | no                                      | no                              | no    |

CAS# 49842-07-1 Substances Regulated Under F&DA That Were In Commerce Between 1/1/84 and 12/31/86

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | yes | no   | no   | no  | no                                      | no                              | no    |

CAS# 99-66-1 Substances Regulated Under F&DA That Were In Commerce Between 1/1/84 and 12/31/86

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | yes | no   | no   | no  | no                                      | no                              | no    |

CAS#7732-18-5

| CEPA | NPRI | DSL | NDSL | CEPA | DWQ | Council of Ministers of the Environment | Controlled Drugs and Substances | WHMIS |
|------|------|-----|------|------|-----|---|---------------------------------|-------|
| no   | no   | yes | no   | no   | no  | no                                      | no                              | no    |

**Section 15 – Regulatory Information - continued**

**WHMIS:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

**Other**

*This MSDS has been prepared in accordance with the ANSI Z400.1 format. Every effort has been made to adhere to the hazard criteria and content requirements of the US OSHA Hazard Communication Standard, European Communities Safety Data Sheets Directive, Canadian Controlled Products Regulations, UK Chemical Hazard Information and Packaging Regulations, and UN Globally Harmonized System of Classification and Labeling of Chemicals*

**Section 16 – Other Information**

Color information has been updated  
Revision: 2  
Date prepared: 12/22/09

**Acronym keys**

**1277/2005** – Narcotics  
**1907/2006** – REACH - Registration, Evaluation and Authorization of Chemicals  
**2000/479/EC (EPER)** -European Pollutant Emission Register  
**2002/95/EC (RoHS)** - Hazardous Substances Restricted or Prohibited in Electrical Equipment  
**2002/96/EC (WEEE)** - Waste Electrical and Electronic Equipment  
**2006/11/EC** - Water Pollution Directive  
**2006/15/EC, 98/24/EC** - Occupational Exposure Directives  
**2037/2000/EC** - Ozone Depleting Substances Regulation  
**21 CFR-IVD** –Code of Federal Regulations, In-vitro Diagnostics  
**273/2004** - Export Requirements and Drug Precursors  
**304/2003** - Export and Import Restrictions  
**67/548/EEC** Dangerous Substances Directive  
**76/769/EEC** - Marketing Restrictions Directive  
**793/93/EEC** - Existing Substance Regulation  
**ACGIH** – American Conference of Governmental Industrial Hygienists  
**ADN** - European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways  
**ADR** - The European Agreement concerning the International Carriage of Dangerous Goods by Road  
**AICS** (Australia Inventory of Chemical Substances)  
**AIHA** – American Industrial Hygiene Association  
**ATHS** - Air Toxics Hot Spots Act  
**Australia Group** – Export Control List - European Commission for Chemical Weapons Precursors  
**CAA** - Clean Air Act of 1990  
**CCR** - California Code of Regulations  
**CEPA** - Canadian Environmental Protection Act, 1999,  
**CERCLA** - Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
**CICADs** - International Chemical Safety Documents  
**CWA** - Clean Water Act  
**CWC** - Chemical Weapons Convention  
**DEA** - Drug Enforcement Administration  
**Department of Homeland Security - Chemical Facility Anti-Terrorism Standards**  
**Directive 79/117/EEC and Directive 91/414/EEC** - Plant Protection Products  
**Directive 96/59/EC** - Disposal of Polychlorinated Biphenyls and Polychlorinated Terphenyls  
**Directive 98/83/EC** - Water Quality - Water Intended for Human Consumption  
**DSL** - Domestic Substances List  
**DWQ** - Drinking Water Quality  
**EAR** – Export Administration Regulations  
**ENCS** - Japan Existing and New Chemical Substances  
**EPICRA** - Emergency Planning and Community Right-to-Know Act  
**FDA** – Food and Drug Administration  
**FIFRA** - Federal Insecticide, Fungicide and Rodenticide Act  
**HAPs** - Hazardous Air Pollutants (**CAA**)  
**IARC** - International Agency for Research on Cancer  
**IATA** - International Air Transport Association  
**ICAO** - International Civil Aviation Organization  
**ICCA** - International Council of Chemical Associations  
**IMDG** - International Maritime Dangerous Goods Code  
**IMO**- International Maritime Organization  
**INCB** - International Narcotics Control Board  
**IPCS** - International Program on Chemical Safety  
**ITAR** - International Traffic in Arms Regulations  
**KECL** - Korea - Existing and Evaluated Chemical Substances  
**NDSL** - Non-Domestic Substances List  
**NIOSH** – national institute for occupational safety and health  
**NPRI** - National Pollutant Release Inventory  
**NTP** – National Toxicology Program  
**OECD** - The Organisation for Economic Co-Operation and Development  
**OEL** – Occupational Exposure Level  
**OSHA** – occupational safety and health  
**OSPAR** – Oslo/Paris Convention of September 22, 1992 - List of Chemicals for Priority Action  
**OTIF**- Intergovernmental Organization for International Carriage by Rail  
**PICCS** (Philippines Inventory of Chemicals and Chemical Substances)  
**POP** - Persistent Organic Pollutants  
**RCRA** - Resource Conservation & Recovery Act  
**REL** – recommended exposure limits

**RID** - The Intergovernmental Organization for International Carriage by Rail  
**SARA** - Superfund Amendments and Reauthorization Act of 1986  
**SCAQMD** – Toxic Air Contaminants List  
**Schedule I, IV** - Controlled Substances  
**SDWA** (Safe Drinking Water Act)  
**Seveso II Directive (96/82/EC)** - Qualifying Quantities for Safety Report Requirements  
**SNUR** – Significant New Use Rule (TSCA)  
**State Department** (Munitions List Category XIV - Toxicological, Biological, Chemical Agents)  
**STEL** – short term exposure limit  
**TDG** - Transport Canada  
Transportation of Dangerous Goods Act, 2001  
**Title 22** - Health and Safety Code, Hazardous Waste Codes

**Title 8** - Industrial Relations, Director's List of Hazardous Substances  
**TLV** – threshold Limit Values  
**TSCA** – Toxic Substance Control Act  
**TWA** – Time Weighted Average  
**UN** - Convention on Marking Plastic Explosives  
**UN/FAO** - Chemicals Subject to Prior Informed Consent (PIC)  
**UNECE** - United Nations Economic Commission for Europe  
**UNEP** United Nations Environment Program  
**US DOT** – United States Department of Transportation  
**USDA** – United States Department of Agriculture  
**WEEL** – Workplace Environmental Exposure Level  
**WGK** - Wassergefährdungsklasse or WHC - Water Hazard Class  
**WHMIS** - Classifications of Substances  
**WHO** - World Health Organization

*This MSDS is intended for review and guidance in the receipt, storage, handling, use and disposal of product purchased from Thermo Fisher Scientific, and for no other purpose. Use this product only as directed and in accordance with applicable instructions and warnings provided with the product. Please consult your institution's policies regarding use of this product. If you have obtained this MSDS other than in connection with the supply of this product from Thermo Fisher Scientific, this MSDS should be consulted for general information only, and should not be relied upon for any purpose. As with the use of all hazardous materials, you should in all instances follow the guidance of the MSDS provided or available with the specific product purchased.*

End of MSDS