

Revision Date 19-Apr-2012

Revision Number 4

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Description:** Cycloheximide  
**Cat No. :** 357420000; 357420010; 357420050; 357420250  
**Synonyms** Actidione  
**Molecular Formula** C15 H23 N O4

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Laboratory chemicals  
**Uses advised against** No Information available

### 1.3. Details of the supplier of the safety data sheet

**Company** Acros Organics BVBA  
 Janssen Pharmaceuticaaan 3a  
 2440 Geel, Belgium  
**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

##### Physical hazards

Based on available data, the classification criteria are not met

##### Health hazards

Based on available data, the classification criteria are not met

|                        |             |
|------------------------|-------------|
| Acute oral toxicity    | Category 2  |
| Germ Cell Mutagenicity | Category 2  |
| Reproductive Toxicity  | Category 1B |

##### Environmental hazards

Based on available data, the classification criteria are not met

|                          |            |
|--------------------------|------------|
| Chronic aquatic toxicity | Category 2 |
|--------------------------|------------|

#### Classification according to EU Directives 67/548/EEC or 1999/45/EC

**Symbol(s)** T+ - Very toxic  
 N - Dangerous for the environment

**SECTION 2: HAZARDS IDENTIFICATION****R-phrase(s)**

R61 - May cause harm to the unborn child  
 R28 - Very toxic if swallowed  
 R68 - Possible risk of irreversible effects  
 R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

**2.2. Label elements**

Signal Word

Danger

**Hazard Statements**

H411 - Toxic to aquatic life with long lasting effects  
 H300 - Fatal if swallowed  
 H341 - Suspected of causing genetic defects  
 H360D - May damage the unborn child

**Precautionary Statements**

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician  
 P281 - Use personal protective equipment as required  
 P201 - Obtain special instructions before use  
 P308 + P313 - IF exposed or concerned: Get medical advice/ attention  
 P273 - Avoid release to the environment

**2.3. Other hazards**

No information available.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

| Component     | CAS-No  | EC-No.            | Weight % | CLP Classification - Regulation (EC) No 1272/2008                                     | DSD Classification - 67/548/EEC                            |
|---------------|---------|-------------------|----------|---|--|
| Cycloheximide | 66-81-9 | EEC No. 200-636-0 | 95       | Acute Tox. 2 (H300)<br>Muta. 2 (H341)<br>Repr. 1B (H360D)<br>Aquatic Chronic 2 (H411) | T+; R28<br>N; R51-53<br>Repr.Cat.2; R61<br>Muta.Cat.3; R68 |

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

**SECTION 4: FIRST AID MEASURES****4.1. Description of first aid measures****Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.

**Ingestion**

Call a physician immediately. Clean mouth with water.

**Inhalation** Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.

**Protection of First-aiders** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination

**4.2. Most important symptoms and effects, both acute and delayed**

No information available

**4.3. Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically

**SECTION 5: FIREFIGHTING MEASURES**

**5.1. Extinguishing media**

**Suitable Extinguishing Media**

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. chemical foam.

**Extinguishing media which must not be used for safety reasons**

No information available.

**5.2. Special hazards arising from the substance or mixture**

Dust can form an explosive mixture in air.

**Hazardous Combustion Products**

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

**5.3. Advice for firefighters**

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

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

**6.2. Environmental precautions**

Prevent further leakage or spillage if safe to do so

**6.3. Methods and material for containment and cleaning up**

Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Do not let this chemical enter the environment.

**6.4. Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7: HANDLING AND STORAGE**

**7.1. Precautions for safe handling**

Do not breathe dust. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing.

**7.2. Conditions for safe storage, including any incompatibilities**

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep locked-up.

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

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

#### Biological limit values

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

#### Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

**Derived No Effect Level (DNEL)** No information available.

| Route of exposure | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|-------------------|-----------------------|--------------------------|-------------------------|----------------------------|
| Oral              |                       |                          |                         |                            |
| Dermal            |                       |                          |                         |                            |
| Inhalation        |                       |                          |                         |                            |

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

#### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

#### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

| Glove material    | Breakthrough time                 | Glove thickness | EU standard | Glove comments        |
|-------------------|-----------------------------------|-----------------|-------------|-----------------------|
| Disposable gloves | See manufacturers recommendations | -               | EN 374      | (minimum requirement) |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove gloves with care avoiding skin contamination.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

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|  |   |
|--|---|
| <b>Respiratory Protection</b>          | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.<br>To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly. |
| <b>Large scale/emergency use</b>       | In case of insufficient ventilation wear suitable respiratory equipment   |
| <b>Small scale/Laboratory use</b>      | Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.<br><br>When RPE is used a face piece Fit Test should be conducted.  |
| <b>Hygiene Measures</b>                | Handle in accordance with good industrial hygiene and safety practice   |
| <b>Environmental exposure controls</b> | No information available.   |

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties**

|  |                                   |   |
|--|-----------------------------------|---|
| <b>Appearance</b>                              | Beige                             |   |
| <b>Physical State</b>                          | Powder, Solid.                    |   |
| <b>Odor</b>                                    | No information available          |   |
| <b>Odor Threshold</b>                          | No data available                 |   |
| <b>pH</b>                                      | No data available                 |   |
| <b>Melting Point/Range</b>                     | 107 - 114°C / 224.6 - 237.2°F     |   |
| <b>Softening Point</b>                         | No data available                 |   |
| <b>Boiling Point/Range</b>                     | No information available.         |   |
| <b>Flash Point</b>                             | No information available.         | <b>Method</b> - No information available. |
| <b>Evaporation Rate</b>                        | No data available                 |   |
| <b>Flammability (solid,gas)</b>                | No information available.         |   |
| <b>Explosion Limits</b>                        | No data available.                |   |
| <b>Vapor Pressure</b>                          | No data available                 |   |
| <b>Vapor Density</b>                           | No data available                 | (Air = 1.0)                               |
| <b>Specific Gravity / Density</b>              | No data available                 |   |
| <b>Bulk Density</b>                            | No data available                 |   |
| <b>Water Solubility</b>                        | 2.1 g/100ml (2 C)                 |   |
| <b>Solubility in other solvents</b>            | No information available.         |   |
| <b>Partition Coefficient (n-octanol/water)</b> | <b>Component</b><br>Cycloheximide | <b>log Pow</b><br>0.55                    |
| <b>Autoignition Temperature</b>                | No data available                 |   |
| <b>Decomposition temperature</b>               | No data available                 |   |
| <b>Viscosity</b>                               | No data available                 |   |
| <b>Explosive Properties</b>                    | No information available.         |   |
| <b>Oxidizing Properties</b>                    | No information available.         |   |

**9.2. Other information**

|                          |              |
|--------------------------|--------------|
| <b>Molecular Formula</b> | C15 H23 N O4 |
| <b>Molecular Weight</b>  | 281.35       |

## SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity**

None known, based on information available.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions****Hazardous Polymerization  
Hazardous Reactions**Hazardous polymerization does not occur.  
No information available.**10.4. Conditions to avoid**

Avoid dust formation, Incompatible products.

**10.5. Incompatible materials**

Strong oxidizing agents. Strong bases. Acid anhydrides. Acid chlorides.

**10.6. Hazardous decomposition products**Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

## SECTION 11: TOXICOLOGICAL INFORMATION

**11.1. Information on toxicological effects****Product Information**

No acute toxicity information is available for this product

**(a) acute toxicity;****Oral**

No data available

**Dermal**

No data available

**Inhalation**

No data available

| Component     | LD50 Oral       | LD50 Dermal | LC50 Inhalation |
|---------------|-----------------|-------------|-----------------|
| Cycloheximide | 2 mg/kg ( Rat ) |             |                 |

**(b) skin corrosion/irritation;**

No data available

**(c) serious eye damage/irritation;**

No data available

**(d) respiratory or skin sensitization;****Respiratory**

No data available

**Skin**

No data available

**(e) germ cell mutagenicity;**

No data available

Substances which cause concern for man owing to possible mutagenic effects but for which the available information is not adequate for making a satisfactory assessment

**(f) carcinogenicity;**

No data available

There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;  
Teratogenicity**

No data available

Teratogenic effects have occurred in experimental animals..

**(h) STOT-single exposure;**

No data available

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|   |  |
|---|--|
| (i) STOT-repeated exposure;                   | No data available                                  |
| Target Organs                                 | No information available.                          |
| (j) aspiration hazard;                        | No data available                                  |
| Other Adverse Effects                         | See actual entry in RTECS for complete information |
| Symptoms / effects,<br>both acute and delayed | No information available.                          |

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecotoxicity effects** Do not empty into drains.

**12.2. Persistence and degradability** No information available

**12.3. Bioaccumulative potential** No information available.

| Component     | log Pow | Bioconcentration factor (BCF) |
|---------------|---------|-------------------------------|
| Cycloheximide | 0.55    | No data available             |

**12.4. Mobility in soil** No information available.

**12.5. Results of PBT and vPvB assessment** No data available for assessment

### 12.6. Other adverse effects

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors  
**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste from Residues / Unused Products** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

**Contaminated Packaging** Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

**European Waste Catalogue (EWC)** According to the European Waste Catalogue, Waste Codes are not product specific, but application specific

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

|   |      |
|---|------|
| <b>14.1. UN number</b>                  | 2811 |
| <b>14.2. UN proper shipping name</b>    |      |
| <b>14.3. Transport hazard class(es)</b> | 6.1  |
| <b>14.4. Packing group</b>              | I    |

### ADR

|   |      |
|---|------|
| <b>14.1. UN number</b>                  | 2811 |
| <b>14.2. UN proper shipping name</b>    |      |
| <b>14.3. Transport hazard class(es)</b> | 6.1  |

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|  |                                 |
|--|---------------------------------|
| <b>14.4. Packing group</b>   | I                               |
| <b>IATA</b>  |                                 |
| <b>14.1. UN number</b>   | 2811                            |
| <b>14.2. UN proper shipping name</b>   |                                 |
| <b>14.3. Transport hazard class(es)</b>  | 6.1                             |
| <b>14.4. Packing group</b>   | I                               |
| <b>14.5. Environmental hazards</b>   | No hazards identified           |
| <b>14.6. Special precautions for user</b>  | No special precautions required |
| <b>14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable, packaged goods  |

## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories X = listed

| Component     | EINECS    | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | CHINA | AICS | KECL |
|---------------|-----------|--------|-----|------|-----|------|-------|------|-------|------|------|
| Cycloheximide | 200-636-0 | -      |     | -    | -   | -    | X     | X    | X     | X    | X    |

| Component     | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances   | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---------------|---|---|---|
| Cycloheximide |   | Use restricted. See item 30.<br>(see <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT</a> for restriction details) |   |

### National Regulations

| Component     | Germany - Water Classification (VwVwS) | Germany - TA-Luft Class |
|---------------|--|-------------------------|
| Cycloheximide | WGK 3                                  |                         |

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

### 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

### Full text of R-phrases referred to under sections 2 and 3

R61 - May cause harm to the unborn child

R28 - Very toxic if swallowed

R68 - Possible risk of irreversible effects

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

### Legend

**Cycloheximide**

**CAS** - Chemical Abstracts Service  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Existing and Evaluated Chemical Substances

**WEL** - Workplace Exposure Limit  
**ACGIH** - American Conference of Industrial Hygiene  
**DNEL** - Derived No Effect Level  
**RPE** - Respiratory Protective Equipment  
**LC50** - Lethal Concentration 50%  
**NOEC** - No Observed Effect Concentration  
**PBT** - Persistent, Bioaccumulative, Toxic

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road  
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code  
**OECD** - Organisation for Economic Co-operation and Development  
**BCF** - Bioconcentration factor

**Key literature references and sources for data**

Suppliers safety data sheet,  
Chemadvisor - LOLI,  
Merck index,  
RTECS

**Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

|                            |                |
|----------------------------|----------------|
| <b>Revision Date</b>       | 19-Apr-2012    |
| <b>Revision Summary</b>    |                |
| <b>Reason for revision</b> | Not applicable |

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japan Existing and New Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

**TWA** - Time Weighted Average  
**IARC** - International Agency for Research on Cancer  
**PNEC** - Predicted No Effect Concentration  
**LD50** - Lethal Dose 50%  
**EC50** - Effective Concentration 50%  
**POW** - Partition coefficient Octanol:Water  
**vPvB** - very Persistent, very Bioaccumulative

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association  
**MARPOL** - International Convention for the Prevention of Pollution from Ships  
**ATE** - Acute Toxicity Estimate  
**VOC** - Volatile Organic Compounds

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**