



SAFETY DATA SHEET

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) Muta. 2 (H341) Repr. 1B (H360D) Aquatic Chronic 2 (H411) | T+; R28 N; R51-53 Repr.Cat.2; R61 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 (CO₂). 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 ProductsNitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂).**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.

| <u>Route of exposure</u> | <u>Acute effects (local)</u> | <u>Acute effects (systemic)</u> | <u>Chronic effects (local)</u> | <u>Chronic effects (systemic)</u> |
|--------------------------|------------------------------|---------------------------------|--------------------------------|-----------------------------------|
| 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

| <u>Glove material</u> | <u>Breakthrough time</u> | <u>Glove thickness</u> | <u>EU standard</u> | <u>Glove comments</u> |
|-----------------------|-----------------------------------|------------------------|--------------------|-----------------------|
| 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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| | |
|--|---|
| Respiratory Protection | 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. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly. |
| Large scale/emergency use | In case of insufficient ventilation wear suitable respiratory equipment |
| Small scale/Laboratory use | 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. When RPE is used a face piece Fit Test should be conducted. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice |
| Environmental exposure controls | No information available. |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

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

9.2. Other information

| | |
|--------------------------|--------------|
| Molecular Formula | C15 H23 N O4 |
| Molecular Weight | 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 productsNitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂).

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

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

14.1. UN number 2811

14.2. UN proper shipping name

14.3. Transport hazard class(es) 6.1

14.4. Packing group I

ADR

14.1. UN number 2811

14.2. UN proper shipping name

14.3. Transport hazard class(es) 6.1

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14.4. Packing group I

IATA

14.1. UN number 2811

14.2. UN proper shipping name

14.3. Transport hazard class(es) 6.1

14.4. Packing group I

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 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. (see http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT 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

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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.

Revision Date 19-Apr-2012
Revision Summary
Reason for revision 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