Safety Data Sheet

TargetMol®
YOUR TARGET MOLECULES

Creation Date: May 25, 2024
Revision Date: May 25, 2024

According to the UN GHS revision 8

1. IDENTIFICATION

1.1 GHS Product identifier

Product name: Carbamazepine

Catalog Number: T0943

CAS Number: 298-46-4

1.2 Other means of identification

Other names: -

1.3 Recommended use of the chemical and restrictions on use

Identified uses: no data available

1.4 Supplier's details

Company: Targetmol Chemicals Inc.

Uses advised against: 36 Washington Street,Wellesley Hills, Massachusetts 02481 USA

Tel/Fax: (781) 999-4286

1.5 Emergency phone number

Emergency phone number: 781-999-4286

Service hours: Monday to Friday, 9am-5pm (Standard timezone:UTC/GMT -5hours).

2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Acute toxicity, oral (Category 4),H302
Sensitisation, skin (Category 1, 1A, 1B),H317
Specific target organ toxicity, single exposure; Narcotic irritation (Category 3),H336
Reproductive toxicity (Category 1A, 1B),H360

2.2 GHS label elements, including precautionary statements

Pictogram(s):

Signal word: Danger

Hazard statement(s):
H302 Harmful if swallowed
H317 May cause an allergic skin reaction
H336 May cause drowsiness or dizziness
H360 May damage fertility or the unborn child

Precautionary statement(s):

Prevention:
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for

breathing.
P321 Specific treatment (see on this label).
P330 Rinse mouth.
P362+P364 Take off contaminated clothing and wash it before reuse.

Storage: P405 Store locked up.

Disposal: P501 Dispose of contents/container to in accordance with local regulation.

2.3 Other hazards which do not resultin classification

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Carbamazepine	-	298-46-4	206-062-7

4. FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General advice

no data avaliable

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a d°Ctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a d°Ctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a d°Ctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a d°Ctor or Poison Control Center immediately.

4.2 Most important symptoms/effects, acute and delayed

Emergency and supportive measures. Maintain an open airway and assist ventilation if necessary. Administer supplemental oxygen. Treat seizures, coma, hyperthermia, arrhythmias, hyponatremia, and dystonias if they °Ccur. Asymptomatic patients should be observed for a minimum of 6 hours after ingestion and for at least 12 hours if an extended-release preparation was ingested. ...

4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

5.2 Specific hazards arising from the chemical

no data available

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Carbamazepine tablets, extended-release tablets, and chewable tablets should be stored in tight, light-resistant containers at temperatures not exceeding 30 deg C. Carbamazepine extended-release capsules should be stored in tight, light-resistant containers at 15-25 deg C. Because dissolution characteristics and ass°Ciated oral bioavailability of carbamazepine tablets may be affected substantially by moisture, patients should be cautioned to keep containers of the tablets tightly closed and in a dry l°Cation, away from areas with excessive moisture (e.g., showers, bathrooms, humidifiers). Carbamazepine tablets may lose one-third or more of their oral bioavailability when exposed to excessive moisture. Tablets continuously exposed to 97% relative humidity at room temperature for 2 weeks become hardened and dissolve poorly.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Color	no data available
Odour	no data available
Melting point/ freezing point	180°C(lit.)

Boilingpoint or initial boiling point and boiling range	189°C/12mmHg(lit.)
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	77°C(lit.)
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	DMSO: 55 mg/mL (232.78 mM), Ethanol: 15 mg/mL (63.5 mM),
N-octanol-water partition coefficient	no data available
Vapour pressure	5.78E-07mmHg at 25°C
Density and/ or relative density	1.266g/cm3
Relative vapour density	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

no data available

10.2 Chemical stability

To study the photostability of carbamazepine polymorphs, the pure materials on the tablet surface were evaluated without physical damage by means of Fourier-transform infrared reflection-absorption infrared spectrometry (FT-IR-RAS) and colorimetric measurement of the carbamazepine polymorphs I, II, and III, after photodegradation at 2 irradiation intensities under a near-UV fluorescent lamp. The surface of sample pellets of all crystalline forms turned gradually from white to yellow-orange upon exposure to light, and the discoloration rate of form II was faster than that of forms I and III, indicating that form II was the most unstable of the three. The semilogarithmic plots of the photodegradation profiles of the various polymorphs were straight lines, including the induction period, indicating that degradation of the drug on the surface followed first-order kinetics. The induction periods of all forms were not significantly different. However, the degradation rate constant of form II was 5.1 and 1.5 times larger than those of forms I and III, respectively.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: no data available
Inhalation: no data available
Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish: no data available
Toxicity to daphnia and other aquatic invertebrates: no data available
Toxicity to algae: no data available
Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Removal of carbamazepine in German sewage treatment plants was found to be extremely low at 7%(1). Using a batch suspension of activated sludge maintained under aerobic conditions, an initial decrease in 5.0 ug/L carbamazepine was observed in the first 15 minutes, then reached a constant level of 3.1 ug/L; 37% loss was attributed to adsorption to sludge. No metabolites were identified and no further degradation was observed(2).

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

The K°C of carbamazepine is estimated as 510(SRC), using a log Kow of 2.45(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated K°C value suggests that carbamazepine is expected to have moderate mobility in soil. In a soil column study using Mahall-Leveen sandy soil from an area northwest of Phoenix, AZ, carbamazepine was detected in the column leachate at a concentration of 0.116 ug/L following addition of the compound at 0.170 ug/L 20 days prior(4).

12.5 Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. TRANSPORT INFORMATION

14.1 UN Number

no data available

14.2 UN Proper Shipping Name

no data available

14.3 Transport hazard class(es)

no data available

14.4 Packing group, if applicable

no data available

14.5 Environmental hazards

no data available

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)	Listed.
EC Inventory	Listed.
United States Toxic Substances Control Act (TSCA) Inventory	Not Listed.
China Catalog of Hazardous chemicals 2015	Not Listed.
New Zealand Inventory of Chemicals (NZI°C)	Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed.
Vietnam National Chemical Inventory	Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed.
Korea Existing Chemicals List (KECL)	Listed.

16. OTHER INFORMATION

Information on revision

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Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_l°Cale=en
CAMEO Chemicals, website: http://came°Chemicals.noaa.gov/search/simple
ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

no data available
