Safety Data Sheet

According to the UN GHS revision 8

Creation Date: July 05, 2026
Revision Date: July 05, 2026

1. IDENTIFICATION

1.1 GHS Product identifier

Product name: Carbaryl

Catalog Number: T0790

CAS Number: 63-25-2

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.

Address: 34 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 -5 hours).

2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral
Acute toxicity - Category 4, Inhalation
Carcinogenicity, Category 2
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

2.2 GHS label elements, including precautionary statements

Pictogram(s):

Signal word: Warning

Hazard statement(s):

H302 Harmful if swallowed
H332 Harmful if inhaled
H351 Suspected of causing cancer
H400 Very toxic to aquatic life

Precautionary statement(s):

Prevention:

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P203 Obtain, read and follow all safety instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P273 Avoid release to the environment.

Response:	P301+P317 IF SWALLOWED: Get medical help. P330 Rinse mouth. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P317 Get medical help. P318 IF exposed or concerned, get medical advice. P391 Collect spillage.
Storage:	P405 Store locked up.
Disposal:	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Carbaryl	-	63-25-2	200-555-0

4. FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General advice

no data available

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Give a slurry of activated charcoal in water to drink. Give one or two glasses of water to drink. Refer for medical attention . See Notes.

4.2 Most important symptoms/effects, acute and delayed

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Carbamates and related compounds

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

Excerpt from ERG Guide 151 [Substances - Toxic (Non-combustible)]: Highly toxic, may be fatal if inhaled, swallowed or absorbed through skin. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. (ERG, 2016)

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Wear/ self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode /when fighting fire/.

5.2 Specific hazards arising from the chemical

Excerpt from ERG Guide 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2016)

5.3 Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Remove all ignition sources. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Remove all ignition sources. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

Store in original containers only. If the contents are leaking or material is spilled, follow these steps while wearing protective equipment. 1. Collect and place in suitable containers for disposal. 2. Wash area with soap and water to remove remaining pesticides. 3. Follow washing with clear water rinse. 4. Do not allow runoff to enter sewer or contaminate water supplies.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

NO open flames. 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

Separated from oxidants and food and feedstuffs. Well closed. Keep in a well-ventilated room.PESTICIDE STORAGE: Storage should be under lock and key and secure from access by unauthorized persons and children. Storage should be in a cool, dry area away from any heat or ignition source. Do not allow storage in a damp or humid area. Do not stack over 2 pallets high. Move bags carefully so as not to tear or puncture. Do not move from one area to another unless they are securely sealed to prevent dust from escaping. Keep container tightly sealed when not in use. Keep away from any puncture source. Avoid storage near water supplies, food, feed and fertilizer to avoid contamination. Avoid contamination with acids and alkalies. Store in original containers only.

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

TLV: 0.5 mg/m3, as TWA; (skin); A4 (not classifiable as a human carcinogen); BEI issued.MAK: (inhalable fraction): 5 mg/m3; peak limitation category: II(4); skin absorption (H)

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 safety goggles or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	solid
Color	White
Odour	... Odorless ...
Melting point/freezing point	142°C
Boiling point or initial boiling point and boiling range	315°C
Flammability	Noncombustible Solid, but may be dissolved in flammable liquids.
Lower and upper explosion limit/flammability limit	no data available
Flash point	202.7°C
Auto-ignition temperature	Not flammable (USCG, 1999)
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	DMSO: 50 mg/mL (248.48 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
N-octanol-water partition coefficient	log Kow = 2.36
Vapour pressure	1.36X10-6 mm Hg at 25 deg C
Density and/or relative density	1.183 g/cm3
Relative vapour density	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

Decomposes on heating and on burning. This produces toxic fumes including nitrogen oxides. Reacts violently with strong oxidants. This generates fire and explosion hazard.

10.2 Chemical stability

Stable to heat, light, acids; hydrolyzed in alkalies

10.3 Possibility of hazardous reactions

FLAMMABILITY POINT OF 193 DEG C.CARBARYL is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates. This compound is unstable in an alkaline media. (NTP, 1992). This compound is incompatible with the following: Strong oxidizers, strongly alkaline pesticides (NIOSH, 2016).

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Incompatible with alkaline materials such as Bordeaux mixture, lime, and lime sulfur.

10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /nitrogen oxides/.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: LD50 Rat oral 230 mg/kg
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

Cancer Classification: Likely to be Carcinogenic to Humans

Reproductive toxicity

No information is available on the reproductive or developmental effects of carbaryl in humans. Two studies produced teratogenic effects in dogs fed carbaryl, but dogs were judged inappropriate for human health risk assessment because of differences in metabolism. Other studies demonstrating teratogenic effects also caused maternal toxicity. Reduced fertility and litter size and increased mortality in offspring have been observed in rats exposed to carbaryl in their diet over three generations.

STOT-single exposure

The substance is irritating to the eyes and skin. The substance may cause effects on the nervous system. This may result in convulsions and respiratory depression. Cholinesterase inhibition. The effects may be delayed. Medical observation is indicated.

STOT-repeated exposure

Cholinesterase inhibition. Cumulative effects are possible. See Acute Hazards/Symptoms. This substance is possibly carcinogenic to humans.

Aspiration hazard

A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20°C; on spraying or dispersing, however, much faster.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish: LC50; Species: /Salmo salar/ (Atlantic salmon, weight 0.4 g); Conditions: static bioassay; Concentration: 4500 ug/L for 96 hr (95% confidence limit: 3820-5310 ug/L) /Technical material, 99.5%
Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea, juvenile about 4 days); Conditions: freshwater, static, 20 deg C, pH 8.0, alkalinity 250 mg/L CaCO3; Concentration: 21 ug/L for 24 hr (95% confidence interval: 17-25 ug/L); Effect: intoxication, immobilization /formulated product
Toxicity to algae: no data available
Toxicity to microorganisms: no data available

12.2 Persistence and degradability

The persistence of 14c-carbonyl-labeled carbaryl at concn of 2 & 200 ppm in 5 different japanese rice paddy soils was studied. evolution of carbon dioxide was not rapid & varied between 2% & 40% over 32 day test period. hydrolysis of carbonyl linkage was the dominant metabolic pathway. an isolated soil microorganism rapidly degraded naphthol & produced a number of unidentified aromatic compounds.

12.3 Bioaccumulative potential

Carbaryl had a measured BCF value of 34, 30 and 9 in golden orfe(1), golden ide(2), and topmouth gudeon, respectively(3). An avg BCF of 9 was determined based on data compilations of freshwater fish at steady state with carbaryl in solution and by the kinetic method (ratio between first-order uptake and elimination rate constants)(4). According to a classification scheme(5), these BCF values suggest the potential for bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

Carbaryl was estimated to leach <20 cm/yr assuming an annual rainfall of 150 cm; a loam soil and a temperature of 25 deg C were assumed(1). Soil-sorption coefficient (Koc) values of 370 and 390 were determined using a soil slurry method and reverse phase HPLC,

respectively(2). In another study, carbaryl had a Koc value of 230(3). Freundlich k values are 0.017 and 0.046 in kaolinite and bentonite clays, respectively(4). In Ca-bentionite, alluvial and highly calcareous soils, the Freundlich adsorption isotherm showed a non-linear pattern and the adsorption was found to be temperature dependent, the adsorption being higher at lower temperature(5). In a study of the degradation and sorption from urban creek sediments from southern California, the sorption coefficient of carbaryl increased with time, indicating that in sediment carbaryl may become less available over time because of increased sorption(6). After 1 day of incubation, the estimated Koc was 310 to 420 for carbaryl. The measured Kd values of carbaryl in sediment after 1, 2, 6, and 28 days were 2.1, 2.4, 5.6, and 47.7 mL/g, respectively(6). A Koc of 230 mL/g has been reported for carbaryl(7). Carbaryl was reported to have a mean Koc value of 288 in the 1993 UK database(8). According to a classification scheme(2), these Koc values suggest that carbaryl is expected to have moderate mobility in soil.

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	Listed.
China Catalog of Hazardous chemicals 2015	Not Listed.
New Zealand Inventory of Chemicals (NZIoC)	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

Creation Date July 05, 2026

Revision Date July 05, 2026

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_locale=en
CAMEO Chemicals, website: http://cameochemicals.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

Depending on the degree of exposure, periodic medical examination is indicated.Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available.If the substance is formulated with solvents also consult the ICSCs of these materials.Carrier solvents used in commercial formulations may change physical and toxicological properties.