



Safety Data Sheet

acc. to OSHA HCS

Printing date 12/03/2018

Reviewed on 12/03/2018

1 Identification

· **Product identifier**

· **Product name: Carbaryl D3 (methyl D3) 100 ng/μl in Acetone**

· **Part number:** DRE-XA10980010AC

· **Application of the substance / the mixture** Reference material for laboratory use only

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

VHG Labs, Inc

LGC Standards

276 Abby Road

Manchester, NH 03103

UNITED STATES OF AMERICA

Tel : +1 (603) 622-7660

Fax : +1 (603) 622-5180

eMail : custsvc@vhglabs.com

Web : www.vhglabs.com

· **Information department:**

Product safety department

eMail : sds-request@lgcgroup.com

· **Emergency telephone number:**

INFOTRAC 24-hour Emergency telephone number:

800-535-5053 (US & Canada);

352-323-3500 (International)

2 Hazard(s) identification

· **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

Aquatic Acute 3 H402 Harmful to aquatic life.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02



GHS07

(Contd. on page 2)



Safety Data Sheet

acc. to OSHA HCS

Printing date 12/03/2018

Reviewed on 12/03/2018

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(Contd. of page 1)

- **Signal word** *Danger*

- **Hazard-determining components of labeling:**

Acetone

- **Hazard statements**

H225 *Highly flammable liquid and vapor.*

H319 *Causes serious eye irritation.*

H336 *May cause drowsiness or dizziness.*

H402 *Harmful to aquatic life.*

- **Precautionary statements**

P210 *Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*

P280 *Wear protective gloves/protective clothing/eye protection/face protection.*

P303+P361+P353 *If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

P305+P351+P338 *If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

P405 *Store locked up.*

P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** *Not applicable.*

- **vPvB:** *Not applicable.*

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** *Mixture: consisting of the following components.*

- **Dangerous components:**

CAS: 67-64-1	Acetone	>99%
RTECS: AL 3150000	<i>Flam. Liq. 2, H225; Eye Irrit. 2A, H319; STOT SE 3, H336</i>	
CAS: 1433961-56-8	Carbaryl D3 (methyl D3)	<0.1%
RTECS: -	<i>Acute Tox. 3, H301; Carc. 2, H351; Aquatic Acute 1, H400; Acute Tox. 4, H312; Acute Tox. 4, H332</i>	

(Contd. on page 3)



Safety Data Sheet

acc. to OSHA HCS

Printing date 12/03/2018

Reviewed on 12/03/2018

Product name: Carbaryl D3 (methyl D3) 100 ng/μl in Acetone

(Contd. of page 2)

· Additional information:

The minor component in this product has been isotopically labelled with deuterium, a stable form of hydrogen.

4 First-aid measures**· Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Rinse mouth. Do not induce vomiting.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

· **Advice for firefighters**

· **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

67-64-1 Acetone

200 ppm

(Contd. on page 4)



Safety Data Sheet

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Printing date 12/03/2018

Reviewed on 12/03/2018

Product name: Carbaryl D3 (methyl D3) 100 ng/μl in Acetone

(Contd. of page 3)

· PAC-2:

67-64-1 Acetone

3200 ppm

· PAC-3:

67-64-1 Acetone

5700 ppm

7 Handling and storage

· Handling:

· **Precautions for safe handling** Store in cool, dry place in tightly closed receptacles.

· **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Please refer to the manufacturers certificate for specific storage and transport temperature conditions.

Store only in the original receptacle unless other advice is given on the CoA.

Keep container in a well-ventilated place. Keep away from sources of ignition and heat.

· **Information about storage in one common storage facility:** Store away from foodstuffs.

· **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

67-64-1 Acetone

PEL Long-term value: 2400 mg/m³, 1000 ppm

REL Long-term value: 590 mg/m³, 250 ppm

TLV Short-term value: 1187 mg/m³, 500 ppm

Long-term value: 594 mg/m³, 250 ppm

BEI

· **Ingredients with biological limit values:**

67-64-1 Acetone

BEI 50 mg/L

Medium: urine

Time: end of shift

Parameter: Acetone (nonspecific)

(Contd. on page 5)



Safety Data Sheet

acc. to OSHA HCS

Printing date 12/03/2018

Reviewed on 12/03/2018

Product name: Carbaryl D3 (methyl D3) 100 ng/μl in Acetone

(Contd. of page 4)

· **Additional information:** *The lists that were valid during the creation were used as basis.*

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:** *Not required.*

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374



Protective gloves

· **Material of gloves** *Butyl rubber, BR*

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: *Liquid*

Color: *Colorless*

· **Odor:** *Sweetish*

· **Odor threshold:** *Not determined.*

· **pH-value:** *Not determined.*

· **Change in condition**

Melting point/Melting range: *-94.7 °C (-138.5 °F)*

Boiling point/Boiling range: *55 °C (131 °F)*

(Contd. on page 6)



Safety Data Sheet

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Printing date 12/03/2018

Reviewed on 12/03/2018

Product name: Carbaryl D3 (methyl D3) 100 ng/µl in Acetone

(Contd. of page 5)

· Flash point:	-17 °C (1.4 °F)
· Flammability (solid, gaseous):	Not determined.
· Ignition temperature:	465 °C (869 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	2.6 Vol %
Upper:	13 Vol %
· Vapor pressure at 20 °C (68 °F):	233 hPa (174.8 mm Hg)
· Density at 20 °C (68 °F):	0.79 g/cm ³ (6.59255 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** Stable under normal conditions.
- **Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:**
Formation of toxic gases is possible during heating or in case of fire.
- **Possibility of hazardous reactions** May form flammable/explosive vapour-air mixture.
- **Conditions to avoid**
Sources of ignition
Heat.
- **Incompatible materials:** Strong oxidizing agents.
- **Hazardous decomposition products:** Formation of toxic gases is possible during heating or in case of fire.

(Contd. on page 7)



Safety Data Sheet

acc. to OSHA HCS

Printing date 12/03/2018

Reviewed on 12/03/2018

Product name: Carbaryl D3 (methyl D3) 100 ng/µl in Acetone

(Contd. of page 6)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

67-64-1 Acetone

Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)

63-25-2 carbaryl (ISO)

Oral	LD50	230 mg/kg (rat)
Dermal	(LD50)	2,000 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Irritating effect.
- **Sensitization:** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

63-25-2 carbaryl (ISO)

LC50/48	0.029 mg/l (crustacean)
EC50/48 h	0.0081 mg/l (crustacean)
EC50/72h	2.5 mg/l (daphnia)
EC50/96h	2.5 mg/l (Algae)

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 8)



Safety Data Sheet

acc. to OSHA HCS

Printing date 12/03/2018

Reviewed on 12/03/2018

Product name: Carbaryl D3 (methyl D3) 100 ng/µl in Acetone

(Contd. of page 7)

- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Dispose in accordance with national regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1090
- **DOT** Acetone mixture
- **ADR** 1090 Acetone mixture
- **IMDG, IATA** ACETONE mixture

- **Transport hazard class(es)**

- **DOT**



- **Class** 3 Flammable liquids
- **Label** 3

- **ADR, IMDG, IATA**



- **Class** 3 Flammable liquids
- **Label** 3

(Contd. on page 9)



Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 12/03/2018

Product name: Carbaryl D3 (methyl D3) 100 ng/µl in Acetone

(Contd. of page 8)

· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1090 ACETONE MIXTURE, 3, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

67-64-1 Acetone

· **TSCA new (21st Century Act) (Substances not listed)**

1433961-56-8 Carbaryl D3 (methyl D3)

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

(Contd. on page 10)



Safety Data Sheet

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Reviewed on 12/03/2018

Product name: Carbaryl D3 (methyl D3) 100 ng/µl in Acetone

(Contd. of page 9)

· Carcinogenic categories**· EPA (Environmental Protection Agency)**

67-64-1	Acetone	I
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· TLV (Threshold Limit Value established by ACGIH)

67-64-1	Acetone	A4
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· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· Hazard pictograms

GHS02 GHS07

· Signal word Danger**· Hazard-determining components of labeling:**

Acetone

· Hazard statements

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H402 Harmful to aquatic life.

· Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**16 Other information**

The information in this Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, we cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. We warrant that the chemical meets the specifications set forth on the label. We (LGC/VHG/ARMI) disclaim any other warranties, expressed or implied with regard to the product supplied hereunder, its

(Contd. on page 11)



Safety Data Sheet

acc. to OSHA HCS

Printing date 12/03/2018

Reviewed on 12/03/2018

Product name: Carbaryl D3 (methyl D3) 100 ng/µl in Acetone

(Contd. of page 10)

merchantability or its fitness for a particular purpose. The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. Read all precautionary information.

• **Date of preparation / last revision** 12/03/2018 / -

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3

• **Sources**

Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.

• **Data compared to the previous version altered.** All sections have been updated.