SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

Diazinon (23.06%) Liquid Formulation

Version 3.4   Revision Date: 11/21/2023   SDS Number: 10814474-00007   Date of last issue: 09/30/2023   Date of first issue: 07/22/2022

SECTION 1. IDENTIFICATION

Product name : Diazinon (23.06%) Liquid Formulation
Other means of identification : COOPERS DIAZINON SHEEP BLOWFLY DRESSING AND CATTLE, GOAT AND PIG SPRAY (62353)

Manufacturer or supplier’s details
Company name of supplier : Merck & Co., Inc
Address : 126 E. Lincoln Avenue
          Rahway, New Jersey U.S.A.  07065
Telephone : 908-740-4000
Emergency telephone : 1-908-423-6000
E-mail address : EHSDATASTEWARD@merck.com

Recommended use of the chemical and restrictions on use
Recommended use : Veterinary product
Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Acute toxicity (Oral) : Category 4
Serious eye damage : Category 1
Skin sensitization : Category 1
Germ cell mutagenicity : Category 2
Carcinogenicity : Category 1B
Specific target organ toxicity - single exposure : Category 1 (Nervous system)
Specific target organ toxicity - single exposure : Category 3
Specific target organ toxicity - repeated exposure : Category 2 (Nervous system, nasal cavity)
Aspiration hazard : Category 1

GHS label elements
Hazard pictograms:

Signal Word : Danger
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Hazard Statements:
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H336 May cause drowsiness or dizziness.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H370 Causes damage to organs (Nervous system).
- H373 May cause damage to organs (Nervous system, nasal cavity) through prolonged or repeated exposure.

Precautionary Statements:

Prevention:
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe mist or vapors.
- P264 Wash skin 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 must not be allowed out of the workplace.
- P280 Wear protective gloves, protective clothing, eye protection and face protection.

Response:
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER.
- P307 + P311 IF exposed: Call a doctor.
- P331 Do NOT induce vomiting.
- P333 + P313 If skin irritation or rash occurs: Get medical attention.
- P363 Wash contaminated clothing before reuse.

Storage:
- P405 Store locked up.

Disposal:
- P501 Dispose of contents and container to an approved waste disposal plant.

Other hazards:
Repeated exposure may cause skin dryness or cracking.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS
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Substance / Mixture: Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C10, aromatics, &lt;1% naphthalene</td>
<td>64742-94-5</td>
<td>56.91</td>
</tr>
<tr>
<td>Diazinon</td>
<td>333-41-5</td>
<td>23.06</td>
</tr>
<tr>
<td>Calcium dodecylbenzenesulphonate</td>
<td>26264-06-2</td>
<td>9.44</td>
</tr>
<tr>
<td>Nonylphenol, ethoxylated</td>
<td>9016-45-9</td>
<td>7.47</td>
</tr>
<tr>
<td>7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate</td>
<td>2386-87-0</td>
<td>3.11</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General advice: In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

If inhaled: If inhaled, remove to fresh air. Get medical attention.

In case of skin contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention immediately.

If swallowed: If swallowed, DO NOT induce vomiting. If vomiting occurs have person lean forward. Call a physician or poison control center immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Harmful if swallowed. May be fatal if swallowed and enters airways. May cause an allergic skin reaction. Causes serious eye damage. May cause drowsiness or dizziness. Suspected of causing genetic defects. May cause cancer. Causes damage to organs. May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact may dry skin and cause irritation.

Protection of first-aiders: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician: Treat symptomatically and supportively.
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SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : None known.

Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)
Sulfur oxides
Oxides of phosphorus
Metal oxides
Sulfur compounds

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g., by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.
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SECTION 7. HANDLING AND STORAGE

Technical measures: See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation: If sufficient ventilation is unavailable, use with local exhaust ventilation.

Advice on safe handling:
- Do not get on skin or clothing.
- Do not breathe mist or vapors.
- Do not swallow.
- Do not get in eyes.
- Wash skin thoroughly after handling.
- Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.
- Keep container tightly closed.
- Do not eat, drink or smoke when using this product.
- Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage:
- Keep in properly labeled containers.
- Store locked up.
- Keep tightly closed.
- Keep in a cool, well-ventilated place.
- Store in accordance with the particular national regulations.

Materials to avoid:
- Do not store with the following product types:
  - Strong oxidizing agents
  - Self-reactive substances and mixtures
  - Organic peroxides
  - Explosives
  - Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C10, aromatics, &lt;1% naphthalene</td>
<td>64742-94-5</td>
<td>TWA (Inhalable particulate matter)</td>
<td>5 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ST (Mist)</td>
<td>10 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>500 ppm 2,000 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td>Diazinon</td>
<td>333-41-5</td>
<td>TWA (Inhalable fraction and vapor)</td>
<td>0.01 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>NIOSH REL</td>
</tr>
</tbody>
</table>
Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diazinon</td>
<td>333-41-5</td>
<td>Acetylcholinesterase activity</td>
<td>In red blood cells</td>
<td>End of shift</td>
<td>70% of an individual's baseline</td>
<td>ACGIH BEI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Butyrylcholinesterase activity</td>
<td>In serum or plasma</td>
<td>End of shift</td>
<td>60% of an individual's baseline</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>

Engineering measures: Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless quick connections). All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices). Minimize open handling.

Personal protective equipment

Respiratory protection: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material: Chemical-resistant gloves

Remarks: Consider double gloving.

Eye protection

Material: Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection

Material: Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing.

Hygiene measures

Material: If exposure to chemical is likely during typical use, provide
 SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**: liquid

**Color**: clear, yellow

**Odor**: characteristic

**Odor Threshold**: No data available

**pH**: No data available

**Melting point/freezing point**: No data available

**Initial boiling point and boiling range**: No data available

**Flash point**: No data available

**Evaporation rate**: No data available

**Flammability (solid, gas)**: Not applicable

**Flammability (liquids)**: No data available

**Upper explosion limit / Upper flammability limit**: No data available

**Lower explosion limit / Lower flammability limit**: No data available

**Vapor pressure**: No data available

**Relative vapor density**: No data available

**Relative density**: No data available

**Density**: No data available

**Solubility(ies)**

**Water solubility**: No data available
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SECTION 10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: Can react with strong oxidizing agents.
Conditions to avoid: None known.
Incompatible materials: Oxidizing agents
Hazardous decomposition products: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity
Harmful if swallowed.

Product:
Acute oral toxicity: Acute toxicity estimate: 1,808 mg/kg
Method: Calculation method

Acute dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
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Method: OECD Test Guideline 420
Remarks: Based on data from similar materials

Acute inhalation toxicity: LC50 (Rat): > 4.778 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: Based on data from similar materials

Acute dermal toxicity: LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Diazinon:
Acute oral toxicity: LD50 (Rat): 1,139 mg/kg

Acute inhalation toxicity: LC50 (Rat): > 5.437 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity: LD50 (Rabbit): > 2,020 mg/kg

Calcium dodecylbenzenesulphonate:
Acute oral toxicity: LD50 (Rat): > 500 - 2,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute dermal toxicity: LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Nonylphenol, ethoxylated:
Acute oral toxicity: LD50 (Rat): 500 - 2,000 mg/kg

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Acute oral toxicity: LD50 (Rat, male): > 2,959 - 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity: LC50 (Rat): >= 5.19 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity: LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Skin corrosion/irritation
Not classified based on available information.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Assessment: Repeated exposure may cause skin dryness or cracking.

Diazinon:
Species: Rabbit
Result: Mild skin irritation

Calcium dodecylbenzenesulphonate:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation
Remarks: Based on data from similar materials

Nonylphenol, ethoxylated:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Serious eye damage/eye irritation
Causes serious eye damage.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

Calcium dodecylbenzenesulphonate:
Species: Rabbit
Result: Irreversible effects on the eye
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

Nonylphenol, ethoxylated:
Species: Rabbit
Result: Irreversible effects on the eye
Method: OECD Test Guideline 405
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization
May cause an allergic skin reaction.

Respiratory sensitization
Not classified based on available information.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative
Remarks : Based on data from similar materials

Diazinon:
Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative

Calcium dodecylbenzenesulphonate:
Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative
Remarks : Based on data from similar materials

Nonylphenol, ethoxylated:
Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative
Remarks : Based on data from similar materials

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : positive
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Assessment:
- Probability or evidence of skin sensitization in humans

Germ cell mutagenicity
- Suspected of causing genetic defects.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
- Genotoxicity in vitro: Test Type: In vitro sister chromatid exchange assay in mammalian cells
  - Result: negative
  - Remarks: Based on data from similar materials

- Genotoxicity in vivo: Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
  - Species: Rat
  - Application Route: inhalation (vapor)
  - Result: negative
  - Remarks: Based on data from similar materials

Diazinon:
- Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
  - Result: negative
  - Test Type: In vitro mammalian cell gene mutation test
  - Result: negative
  - Test Type: Chromosome aberration test in vitro
  - Result: negative

- Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
  - Species: Rat
  - Application Route: Intraperitoneal injection
  - Result: positive

Germ cell mutagenicity - Assessment: Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

Calcium dodecylbenzenesulphonate:
- Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
  - Method: OECD Test Guideline 471
  - Result: negative
  - Remarks: Based on data from similar materials

  - Test Type: In vitro mammalian cell gene mutation test
  - Result: negative
  - Remarks: Based on data from similar materials

  - Test Type: Chromosome aberration test in vitro
  - Method: OECD Test Guideline 473
  - Result: negative
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Genotoxicity in vivo
Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Nonylphenol, ethoxylated:
Genotoxicity in vitro
Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Genotoxicity in vitro
Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: positive
Test Type: In vitro mammalian cell gene mutation test
Result: positive
Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: positive
Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: positive

Genotoxicity in vivo
Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 486
Result: negative
Test Type: Micronucleus test
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Test Type: Transgenic rodent somatic cell gene mutation assay
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 488
Result: positive

Germ cell mutagenicity - Assessment
Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.
Carcinogenicity
May cause cancer.

Components:

Diazinon:
Species: Rat
Application Route: Ingestion
Exposure time: 104 weeks
Result: negative

Carcinogenicity - Assessment: Sufficient evidence of carcinogenicity in animal experiments

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Species: Mouse
Application Route: Skin contact
Exposure time: 29 Months
Result: negative

IARC Group 2A: Probably carcinogenic to humans

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Not classified based on available information.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Effects on fertility: Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapor)
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development: Test Type: Embry-fetal development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Diazinon:
Effects on fertility: Test Type: Three-generation study
Species: Rat
Application Route: Ingestion
Result: negative
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<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4</td>
<td>11/21/2023</td>
<td>10814474-00007</td>
<td>09/30/2023</td>
<td>07/22/2022</td>
</tr>
</tbody>
</table>

#### Effects on fetal development
- **Test Type:** Embryo-fetal development
- **Species:** Rat
- **Application Route:** Ingestion
- **Result:** negative

#### Calcium dodecylbenzenesulphonate:
- **Effects on fertility**
  - **Test Type:** Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
  - **Species:** Rat
  - **Application Route:** Ingestion
  - **Method:** OECD Test Guideline 422
  - **Result:** negative
  - **Remarks:** Based on data from similar materials

#### Effects on fetal development
- **Test Type:** Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
- **Species:** Rat
- **Application Route:** Ingestion
- **Method:** OECD Test Guideline 422
- **Result:** negative
- **Remarks:** Based on data from similar materials

#### 7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
- **Effects on fetal development**
  - **Test Type:** Embryo-fetal development
  - **Species:** Rat
  - **Application Route:** Ingestion
  - **Method:** OECD Test Guideline 414
  - **Result:** negative

#### STOT-single exposure
- May cause drowsiness or dizziness.
- Causes damage to organs (Nervous system).

#### Components:

- **Hydrocarbons, C10, aromatics, <1% naphthalene:**
  - **Assessment:** May cause drowsiness or dizziness.
  - **Remarks:** Based on data from similar materials

- **Diazinon:**
  - **Routes of exposure:** Ingestion
  - **Target Organs:** Nervous system
  - **Assessment:** Shown to produce significant health effects in animals at concentrations of 300 mg/kg bw or less.

#### STOT-repeated exposure
- May cause damage to organs (Nervous system, nasal cavity) through prolonged or repeated exposure.
Components:

Diazinon:
Routes of exposure : Ingestion
Target Organs : Nervous system
Assessment : Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

Calcium dodecylbenzenesulphonate:
Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Routes of exposure : Ingestion
Target Organs : nasal cavity
Assessment : Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

Repeated dose toxicity

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Species : Rat
NOAEL : 300 mg/kg
Application Route : Ingestion
Exposure time : 13 Weeks
Remarks : Based on data from similar materials

Diazinon:
Species : Rat
NOAEL : 0.3 mg/kg
LOAEL : 15 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Species : Rat
NOAEL : 0.1 mg/l
LOAEL : 0.75 mg/l
Application Route : inhalation (dust/mist/fume)
Exposure time : 28 Days

Calcium dodecylbenzenesulphonate:
Species : Rat
LOAEL : > 200 mg/kg
Application Route : Ingestion
Exposure time : 6 - 7 Weeks
Method : OECD Test Guideline 422
Remarks : Based on data from similar materials
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Species: Rabbit
NOAEL: > 100 mg/kg
Application Route: Skin contact
Exposure time: 28 Days
Method: OECD Test Guideline 410
Remarks: Based on data from similar materials

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Species: Rat
NOAEL: 5 mg/kg
LOAEL: 50 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Method: OECD Test Guideline 408

Aspiration toxicity
May be fatal if swallowed and enters airways.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Experience with human exposure

Components:

Diazinon:
Inhalation: Symptoms: carcinogenic effects

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Toxicity to fish: LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates: EL50 (Daphnia magna (Water flea)): 3 - 10 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic: EL50 (Pseudokirchneriella subcapitata (green algae)): > 1 - 3
### Diazinon (23.06%) Liquid Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4</td>
<td>11/21/2023</td>
<td>10814474-00007</td>
<td>09/30/2023</td>
<td>07/22/2022</td>
</tr>
</tbody>
</table>

**Diazinon:**

**Toxicity to fish:**
- LC$_{50}$ (Oncorhynchus mykiss (rainbow trout)): 0.09 mg/l
- Exposure time: 96 h

**Toxicity to daphnia and other aquatic invertebrates:**
- EC$_{50}$ (Ceriodaphnia dubia (water flea)): 0.000164 mg/l
- Exposure time: 48 h

**Toxicity to fish (Chronic toxicity):**
- NOEC (Pimephales promelas (fathead minnow)): 0.092 mg/l
- Exposure time: 34 d

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):**
- NOEC (Daphnia magna (Water flea)): 0.00017 mg/l
- Exposure time: 21 d

**Calcium dodecylbenzenesulphonate:**

**Toxicity to fish:**
- LC$_{50}$ (Leuciscus idus (Golden orfe)): > 1 - 10 mg/l
- Exposure time: 96 h
- Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates:**
- EC$_{50}$ (Daphnia magna (Water flea)): > 1 - 10 mg/l
- Exposure time: 48 h
- Remarks: Based on data from similar materials

**Toxicity to algae/aquatic plants:**
- ErC$_{50}$ (Pseudokirchneriella subcapitata (green algae)): > 10 - 100 mg/l
- Exposure time: 72 h
- Remarks: Based on data from similar materials

- NOEC (Pseudokirchneriella subcapitata (green algae)): > 0.1 - 1 mg/l
- Exposure time: 72 h
- Remarks: Based on data from similar materials

**Toxicity to fish (Chronic toxicity):**
- NOEC (Pimephales promelas (fathead minnow)): > 0.1 - 1 mg/l
- Exposure time: 28 d
- Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):**
- NOEC (Daphnia magna (Water flea)): > 1 mg/l
- Exposure time: 21 d
- Remarks: Based on data from similar materials

**Toxicity to microorganisms:**
- EC$_{50}$ (activated sludge): > 100 mg/l
- Exposure time: 3 h
- Method: OECD Test Guideline 209
- Remarks: Based on data from similar materials
### Nonylphenol, ethoxylated:

**Toxicity to fish**
- LC50 (Pimephales promelas (fathead minnow)): > 0.1 - 1 mg/l
- Exposure time: 96 h
- Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates**
- EC50 (Ceriodaphnia dubia (water flea)): > 0.1 - 1 mg/l
- Exposure time: 48 h
- Remarks: Based on data from similar materials

**Toxicity to algae/aquatic plants**
- ErC50 (Selenastrum capricornutum (green algae)): > 1 - 10 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201
  - Remarks: Based on data from similar materials

  EC10 (Selenastrum capricornutum (green algae)): > 1 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201
  - Remarks: Based on data from similar materials

**Toxicity to fish (Chronic toxicity)**
- NOEC (Oryzias latipes (Japanese medaka)): > 0.1 - 1 mg/l
  - Exposure time: 100 d
  - Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**
- NOEC (Mysidopsis bahia (opossum shrimp)): > 0.001 - 0.01 mg/l
  - Exposure time: 28 d
  - Remarks: Based on data from similar materials

### 7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

**Toxicity to fish**
- LC50 (Oncorhynchus mykiss (rainbow trout)): 24 mg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203

**Toxicity to daphnia and other aquatic invertebrates**
- EC50 (Daphnia magna (Water flea)): 40 mg/l
  - Exposure time: 48 h
  - Method: OECD Test Guideline 202

**Toxicity to algae/aquatic plants**
- ErC50 (Raphidocelis subcapitata (freshwater green algae)): > 110 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201

- NOEC (Raphidocelis subcapitata (freshwater green algae)): 30 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201

**Toxicity to microorganisms**
- EC10 (activated sludge): 409 mg/l
  - Exposure time: 3 h
  - Method: OECD Test Guideline 209
Persistence and degradability

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 49.56%  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

Calcium dodecylbenzenesulphonate:
Biodegradability : Result: Readily biodegradable.  
Remarks: Based on data from similar materials

Nonylphenol, ethoxylated:
Biodegradability : Result: Not readily biodegradable.  
Remarks: Based on data from similar materials

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 71%  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

Bioaccumulative potential

Components:

Diazinon:
Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 46.9
Partition coefficient: n-octanol/water : log Pow: 3.69

Calcium dodecylbenzenesulphonate:
Bioaccumulation : Bioconcentration factor (BCF): < 500  
Remarks: Based on data from similar materials
Partition coefficient: n-octanol/water : log Pow: 4.77  
Remarks: Calculation

Nonylphenol, ethoxylated:
Partition coefficient: n-octanol/water : log Pow: 4.48

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Partition coefficient: n-octanol/water : log Pow: 1.34  
Method: OECD Test Guideline 107
Mobility in soil
No data available

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Dispose of in accordance with local regulations.
Do not dispose of waste into sewer.
Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number: UN 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diazinon)
Class: 9
Packing group: III
Labels: 9
Environmentally hazardous: yes

IATA-DGR
UN/ID No.: UN 3082
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Diazinon)
Class: 9
Packing group: III
Labels: Miscellaneous
Packing instruction (cargo aircraft): 964
Packing instruction (passenger aircraft): 964
Environmentally hazardous: yes

IMDG-Code
UN number: UN 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diazinon)
Class: 9
Packing group: III
Labels: 9
EmS Code: F-A, S-F
Marine pollutant: yes
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR
UN/ID/NA number : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Diazinon)
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : yes (Diazinon)
Remarks : THE ABOVE INFORMATION ONLY APPLIES TO PACKAGE SIZES WHERE THE HAZARDOUS SUBSTANCE MEETS THE REPORTABLE QUANTITY.

Special precautions for user
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
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</thead>
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<tr>
<td>Diazinon</td>
<td>333-41-5</td>
<td>1</td>
<td>4</td>
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<tr>
<td>Calcium dodecylbenzenesulphonate</td>
<td>26264-06-2</td>
<td>1000</td>
<td>10593</td>
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</tbody>
</table>

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure) Respiratory or skin sensitization Germ cell mutagenicity Carcinogenicity Specific target organ toxicity (single or repeated exposure) Aspiration hazard Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diazinon</td>
<td>333-41-5</td>
<td>23.06 %</td>
</tr>
</tbody>
</table>
Diazinon (23.06%) Liquid Formulation

US State Regulations

Pennsylvania Right To Know

- Hydrocarbons, C10, aromatics, <1% naphthalene: 64742-94-5
- Diazinon: 333-41-5
- Calcium dodecylbenzenesulphonate: 26264-06-2
- Nonylphenol, ethoxylated: 9016-45-9
- 7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate: 2386-87-0

California List of Hazardous Substances

- Hydrocarbons, C10, aromatics, <1% naphthalene: 64742-94-5
- Diazinon: 333-41-5
- Calcium dodecylbenzenesulphonate: 26264-06-2

California Permissible Exposure Limits for Chemical Contaminants

- Hydrocarbons, C10, aromatics, <1% naphthalene: 64742-94-5
- Diazinon: 333-41-5

The ingredients of this product are reported in the following inventories:

- AICS: not determined
- DSL: not determined
- IECSC: not determined

SECTION 16. OTHER INFORMATION

Further information
SAFETY DATA SHEET
generated by the OSHA Hazard Communication Standard

Diazinon (23.06%) Liquid Formulation

Version 3.4  
Revision Date: 11/21/2023  
SDS Number: 10814474-00007  
Date of last issue: 09/30/2023  
Date of first issue: 07/22/2022

NFPA 704:

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3</td>
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</table>

HMIS® IV:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
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</thead>
<tbody>
<tr>
<td>*</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
NIOSH REL : USA. NIOSH Recommended Exposure Limits
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA : 8-hour, time-weighted average
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA : 8-hour time weighted average

AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable
SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

Diazinon (23.06%) Liquid Formulation

Version 3.4  Revision Date: 11/21/2023  SDS Number: 10814474-00007  Date of last issue: 09/30/2023  Date of first issue: 07/22/2022

Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative


Revision Date: 11/21/2023

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

US / Z8