SAFETY DATA SHEET
Diazinon Formulation

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Diazinon Formulation

Supplier’s company name, address and phone number
Company name of supplier : MSD
Address : Kumagaya, Saitama Prefecture , Xicheng 810 MSD Co., Ltd. Menuma factory
Telephone : 048-588-8411
E-mail address : EHSDATASTEWARD@msd.com
Emergency telephone number : +1-908-423-6000

Recommended use of the chemical and restrictions on use
Recommended use : Veterinary product

2. HAZARDS IDENTIFICATION

GHS classification of chemical product
Acute toxicity (Oral) : Category 4
Skin corrosion/irritation : Category 2
Serious eye damage/eye irritation : Category 1
Skin sensitisation : Category 1
Germ cell mutagenicity : Category 1B
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)
Aspiration hazard : Category 1
Short-term (acute) aquatic hazard : Category 1
Long-term (chronic) aquatic hazard : Category 1
GHS label elements

Hazard pictograms:

- Danger

Signal word:

- Danger

Hazard statements:

- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H336 May cause drowsiness or dizziness.
- H340 May cause genetic defects.
- H350 May cause cancer.
- H370 Causes damage to organs (Nervous system).
- H373 May cause damage to organs (Nervous system) through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

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 vapours.
- 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 should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
- P302 + P352 IF ON SKIN: Wash with plenty of water.
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ 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/ doctor.
- P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
- P331 Do NOT induce vomiting.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- P391 Collect spillage.
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Storage:
P405 Store locked up.

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

Other hazards which do not result in classification
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

<table>
<thead>
<tr>
<th>Components</th>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
<th>ENCS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diazinon</td>
<td>333-41-5</td>
<td>50</td>
<td>5-923</td>
</tr>
<tr>
<td></td>
<td>Solvent naphtha (petroleum), light</td>
<td>64742-95-6</td>
<td>&gt;= 20 - &lt; 25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>aromatic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nonylphenol, ethoxylated</td>
<td>9016-45-9</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7-Oxabicyclo[4.1.0]hept-3-ylmethyl</td>
<td>2386-87-0</td>
<td>&gt;= 2.5 - &lt; 10</td>
<td>3-2452</td>
</tr>
<tr>
<td></td>
<td>7-oxabicyclo[4.1.0]heptane-3-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>carboxylate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 for at least 15 minutes while removing 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 centre 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. Causes skin irritation. May cause an allergic skin reaction.
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Causes serious eye damage.
May cause drowsiness or dizziness.
May cause genetic defects.
May cause cancer.
Causes damage to organs.
May cause damage to organs through prolonged or repeated exposure.

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.

5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media:
None known.

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

Hazardous combustion products:
- Carbon oxides
- Nitrogen oxides (NOx)
- Sulphur oxides
- Oxides of phosphorus

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

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 dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorb-
bent. 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.

7. HANDLING AND STORAGE

Handling

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 vapours. 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.

Avoidance of contact

Hygiene measures : Oxidizing agents
If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use. The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

Storage

Conditions for safe storage : Keep in properly labelled 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
Packaging material : Unsuitable material: None known.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold limit value and permissible exposure limits for each component in the work environment

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Reference concentration / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diazinon</td>
<td>333-41-5</td>
<td>OEL-M</td>
<td>0.1 mg/m$^3$</td>
<td>JP OEL JSOH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable fraction and vapor)</td>
<td>0.01 mg/m$^3$</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>64742-95-6</td>
<td>TWA</td>
<td>200 mg/m$^3$ (total hydrocarbon vapor)</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

Further information: Skin absorption, Group 2B: possibly carcinogenic to humans

Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Target substance</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: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type: Combined particulates and organic vapour type

Hand protection: Chemical-resistant gloves

Remarks: Consider double gloving.
Eye protection: 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: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: liquid

Colour: yellow

Odour: characteristic

Odour Threshold: No data available

Melting point/freezing point: No data available

Boiling point, initial boiling point and boiling range: No data available

Flammability (solid, gas): Not applicable

Flammability (liquids): No data available

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit / Upper flammability limit: No data available

Lower explosion limit / Lower flammability limit: No data available

Flash point: No data available

Decomposition temperature: No data available

pH: No data available

Evaporation rate: No data available

Auto-ignition temperature: No data available

Viscosity

Viscosity, kinematic: No data available

Solubility(ies)

Water solubility: No data available
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.

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: 1,192 mg/kg
Method: Calculation method

Components:
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

**Solvent naphtha (petroleum), light aromatic:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.61 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

**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**

Causes skin irritation.

**Components:**

**Diazinon:**

Species : Rabbit  
Result : Mild skin irritation

**Solvent naphtha (petroleum), light aromatic:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Skin irritation

**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:
Solvent naphtha (petroleum), light aromatic:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

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 sensitisation

Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.

Components:
Diazinon:
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Solvent naphtha (petroleum), light aromatic:
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Nonylphenol, ethoxylated:
Test Type: Maximisation Test
Exposure routes: 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 : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Result : positive
Assessment : Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity
May cause genetic defects.

Components:
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.

Solvent naphtha (petroleum), light aromatic:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Result: positive
Genotoxicity in vivo : Test Type: Sister chromatid exchange analysis in spermatogonia
Species: Mouse
Application Route: Intraperitoneal injection
Result: positive
Germ cell mutagenicity - Assessment : Positive result(s) from in vivo heritable germ cell mutagenicity tests in mammals

Nonylphenol, ethoxylated:
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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: In vitro mammalian cell gene mutation test 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

Germ cell mutagenicity - Assessment: Weight of evidence does not support classification as a germ cell mutagen.

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

Solvent naphtha (petroleum), light aromatic:
Species: Mouse Application Route: Skin contact Exposure time: 2 Years Result: positive Carcinogenicity - Assessment: Sufficient evidence of carcinogenicity in animal experiments

Reproductive toxicity
Not classified based on available information.

Components:

Diazinon:
Effects on fertility: Test Type: Three-generation study Species: Rat Application Route: Ingestion
Result: negative

Effects on foetal development:
- Test Type: Embryo-foetal development
- Species: Rat
- Application Route: Ingestion
- Result: negative

Solvent naphtha (petroleum), light aromatic:

Effects on fertility:
- Test Type: Reproduction/Developmental toxicity screening test
- Species: Rat
- Application Route: inhalation (vapour)
- Result: negative

Effects on foetal development:
- Test Type: Embryo-foetal development
- Species: Rat
- Application Route: inhalation (vapour)
- Result: negative

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

Effects on foetal development:
- Test Type: Embryo-foetal 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:

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

Solvent naphtha (petroleum), light aromatic:
- Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
May cause damage to organs (Nervous system) through prolonged or repeated exposure.

Components:

Diazinon:
- Exposure routes: Ingestion
- Target Organs: Nervous system
- Assessment: Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.
Repeated dose toxicity

**Components:**

**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

**Solvent naphtha (petroleum), light aromatic:**
- Species: Rat
- LOAEL: 500 mg/kg
- Application Route: Ingestion
- Exposure time: 28 Days

**Aspiration toxicity**
May be fatal if swallowed and enters airways.

**Components:**

**Solvent naphtha (petroleum), light aromatic:**
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

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**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Components:**

**Diazinon:**
- Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 0.09 mg/l
  - Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates: EC50 (Ceriodaphnia dubia (water flea)): 0.000164 mg/l
  - Exposure time: 48 h
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M-Factor (Acute aquatic toxicity): 1,000
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
M-Factor (Chronic aquatic toxicity): 100

Solvent naphtha (petroleum), light aromatic:
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 8.2 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Toxicity to daphnia and other aquatic invertebrates: EL50 (Daphnia magna (Water flea)): 4.5 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants: EL50 (Pseudokirchneriella subcapitata (microalgae)): 3.1 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
NOELR (Pseudokirchneriella subcapitata (microalgae)): 0.5 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOELR (Daphnia magna (Water flea)): 2.6 mg/l
Exposure time: 21 d
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 211

Nonylphenol, ethoxylated:
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia sp. (water flea)): 1.82 mg/l
Exposure time: 48 h
Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (green algae)): 20 mg/l
Exposure time: 48 h

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Toxicity to fish: LC50 (Onchorhynchus 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: ErC50 (Selenastrum capricornutum (green algae)): > 110 mg/l
plants

Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Selenastrum capricornutum (green algae)): 30 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms: EC10 (Natural microorganism): 409 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Persistence and degradability

**Components:**

**Solvent naphtha (petroleum), light aromatic:**

Biodegradability: Result: Inherently biodegradable.
Biodegradation: 94 %
Exposure time: 25 d

**Nonylphenol, ethoxylated:**

Biodegradability: Result: Readily biodegradable.
Biodegradation: 97 %
Exposure time: 30 d

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

Biodegradability: Biodegradation: 71 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Stability in water: Degradation half life (DT50): 2 d

Bioaccumulative potential

**Components:**

**Diazinon:**

Bioaccumulation: Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 46.9

Partition coefficient: n-octanol/water: log Pow: 3.69

**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

**Mobility in soil**

No data available
Hazardous to the ozone layer
Not applicable

Other adverse effects

Components:
Nonylphenol, ethoxylated:
Results of PBT and vPvB assessment : This substance is considered to be persistent, bioaccumulating and toxic (PBT). This substance is considered to be very persistent and very bioaccumulating (vPvB).

13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : Dispose of in accordance with local regulations.
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.

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

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
15. REGULATORY INFORMATION

Related Regulations

Fire Service Law
Not applicable to dangerous materials / designated flammables.

Chemical Substance Control Law
Priority Assessment Chemical Substance

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>alpha-(Nonylphenyl)-omega-hydroxy(polyoxyethylene)</td>
<td>86</td>
</tr>
</tbody>
</table>

Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacture
Not applicable

Harmful Substances Required Permission for Manufacture
Not applicable

Substances Prevented From Impairment of Health
Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity
Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity
Not applicable

Substances Subject to be Notified Names
Article 57-2 (Enforcement Order Table 9)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O,O-Diethyl-O-(2-isopropyl-6-methyl-4-pyrimidinyl) thiophosphate</td>
<td>343</td>
<td>&gt;=50 - &lt;60</td>
</tr>
<tr>
<td>Petroleum naphtha</td>
<td>330</td>
<td>&gt;=20 - &lt;30</td>
</tr>
</tbody>
</table>

Substances Subject to be Indicated Names
Article 57 (Enforcement Order Article 18)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>O,O-Diethyl-O-(2-isopropyl-6-methyl-4-pyrimidinyl) thiophosphate</td>
<td>343</td>
</tr>
<tr>
<td>Petroleum naphtha</td>
<td>330</td>
</tr>
</tbody>
</table>
**SAFETY DATA SHEET**

**Diazinon Formulation**

**Version** 1.1  
**Revision Date:** 2021/10/12  
**SDS Number:** 7699410-00002  
**Date of last issue:** 2020/12/22

**Ordinance on Prevention of Hazards Due to Specified Chemical Substances**  
Not applicable

**Ordinance on Prevention of Lead Poisoning**  
Not applicable

**Ordinance on Prevention of Tetraalkyl Lead Poisoning**  
Not applicable

**Ordinance on Prevention of Organic Solvent Poisoning**  
Organic Solvents Class 3

**Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)**  
Not applicable

**Poisonous and Deleterious Substances Control Law**  
Deleterious substance

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Cabinet Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparations containing 2-Isopropyl-4-methylpyrimidy-6-diethylthiophosphate</td>
<td>10</td>
</tr>
</tbody>
</table>

**Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof**

**Class I Designated Chemical Substances**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O,O-diethyl O-2-isopropyl-6-methyl-4-pyrimidinyl phosphorothioate</td>
<td>248</td>
<td>50</td>
</tr>
<tr>
<td>poly(oxyethylene) nonylphenyl ether</td>
<td>410</td>
<td>20</td>
</tr>
</tbody>
</table>

**High Pressure Gas Safety Act**  
Not applicable

**Explosive Control Law**  
Not applicable

**Vessel Safety Law**  
Miscellaneous dangerous substances and articles (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

**Aviation Law**  
Miscellaneous dangerous substances and articles (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

**Marine Pollution and Sea Disaster Prevention etc Law**

- **Bulk transportation**: Not classified as noxious liquid substance
- **Pack transportation**: Classified as marine pollutant

**Narcotics and Psychotropics Control Act**

- Narcotic or Psychotropic Raw Material (Export / Import Permission)  
  Not applicable
- Specific Narcotic or Psychotropic Raw Material (Export / Import permission)  
  Not applicable

**Waste Disposal and Public Cleansing Law**

Industrial waste
The components of this product are reported in the following inventories:

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

16. OTHER INFORMATION

**Further information**

Sources of key data used to compile the Safety Data Sheet:

Date format:
- yyyy/mm/dd

**Full text of other abbreviations**

- ACGIH: USA. ACGIH Threshold Limit Values (TLV)
- ACGIH BEI: ACGIH - Biological Exposure Indices (BEI)

ACGIH / TWA: 8-hour, time-weighted average
JP OEL JSOH / OEL-M: Occupational Exposure Limit-Mean

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recomm-
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.

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