

Diflubenzuron (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 08.12.2025
2.0	09.05.2026	11556242-00004	Date of first issue: 11.07.2025

SECTION 1: IDENTIFICATION

Product name : Diflubenzuron (2%) Formulation

Other means of identification : COOPERS STAMPEDE POUR-ON LOUSICIDE FOR CATTLE AND SHEEP (61351)

Manufacturer or supplier's details

Company : Intervet Australia Pty Limited (trading as MSD Animal Health)

Address : Building A - Level 1/26 Talavera Rd
Macquarie Park NSW, Australia 2113

Telephone : 1 800 033 461

Emergency telephone number : Poisons Information Centre: Phone 13 11 26

E-mail address : EHSDATASTEWARD@msd.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**

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 2A

Reproductive toxicity : Category 1B

Specific target organ toxicity - single exposure : Category 3

GHS label elements

Hazard pictograms :  

Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H360D May damage the unborn child.

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Precautionary statements

: **Prevention:**

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

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 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

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.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
(2-Methoxymethylethoxy)propanol	34590-94-8	>= 30 -< 60
N-Methyl-2-pyrrolidone	872-50-4	>= 30 -< 60
Hydrocarbons, C10, aromatics, <1% naphthalene	64742-94-5	>= 1 -< 10
N-[[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide	35367-38-5	< 10
4-[(1,5-Dihydro-3-methyl-5-oxo-1-phenyl-4H-pyrazol-4-ylidene)methyl]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one	4702-90-3	< 3

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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 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. |
| If swallowed | : | If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water. |
| Most important symptoms and effects, both acute and delayed | : | Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
May damage the unborn child. |
| 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. |

SECTION 5. FIREFIGHTING MEASURES

- | | | |
|---------------------------------------|---|---|
| Suitable extinguishing media | : | Water spray
Alcohol-resistant foam
Carbon dioxide (CO ₂)
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
Chlorine compounds
Nitrogen oxides (NO _x)
Fluorine 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. |

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Evacuate area.

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

Hazchem Code : •3Z

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 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 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.

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 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. Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease,

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- should consult their physician regarding working with respiratory irritants or sensitisers.
Take care to prevent spills, waste and minimize release to the environment.
- Hygiene measures** : 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.
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.
- 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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
(2-Methoxymethylethoxy)propanol	34590-94-8	TWA	50 ppm 308 mg/m ³	AU OEL
	Further information: Skin absorption			
		TWA	50 ppm	ACGIH
N-Methyl-2-pyrrolidone	872-50-4	TWA	25 ppm 103 mg/m ³	AU OEL
	Further information: Skin absorption			
		STEL	75 ppm 309 mg/m ³	AU OEL
	Further information: Skin absorption			
Hydrocarbons, C10, aromatics, <1% naphthalene	64742-94-5	TWA (Mist)	5 mg/m ³	AU OEL
		TWA (Inhalable particulate matter)	5 mg/m ³	ACGIH
N-[[[4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide	35367-38-5	TWA	400 µg/m ³ (OEB 2)	Internal

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Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
N-Methyl-2-pyrrolidone	872-50-4	5-Hydroxy-N-methyl-2-pyrrolidone	Urine	End of shift (As soon as possible after exposure ceases)	100 mg/l	ACGIH BEI

Engineering measures : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less 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.
 Laboratory operations do not require special containment.

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

Material : Chemical-resistant gloves

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : yellow

Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling range : > 150 °C (1000 hPa)

Flash point : > 100 °C

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Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	Ignitable (see flash point)
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Solubility(ies)	:	
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle characteristics	:	
Particle size	:	No data available

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

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Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Components:**(2-Methoxymethylethoxy)propanol:**

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

Acute inhalation toxicity : LC50 (Rat): > 1.667 mg/l
Exposure time: 7 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): 9,510 mg/kg

N-Methyl-2-pyrrolidone:

Acute oral toxicity : LD50 (Rat): 4,150 mg/kg
Method: OECD Test Guideline 401
Remarks: The test was conducted equivalent or similar to guideline

Acute inhalation toxicity : LC50 (Rat): > 5.1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: The test was conducted according to guideline

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: The test was conducted equivalent or similar to guideline

Hydrocarbons, C10, aromatics, <1% naphthalene:

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

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Method: OECD Test Guideline 402
 Assessment: The substance or mixture has no acute dermal toxicity
 Remarks: Based on data from similar materials

N-[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide:

Acute oral toxicity : LD50 (Rat): 4,640 mg/kg
 Acute inhalation toxicity : LC50 (Rat): > 2.49 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: OECD Test Guideline 403
 Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
 Method: OECD Test Guideline 402

4-[[1,5-Dihydro-3-methyl-5-oxo-1-phenyl-4H-pyrazol-4-ylidene)methyl]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
 Acute inhalation toxicity : LC50 (Rat): > 7.39 mg/l
 Exposure time: 8 h
 Test atmosphere: dust/mist
 Acute dermal toxicity : LD50 (Rat): > 2,500 mg/kg
 Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Causes skin irritation.

Components:**(2-Methoxymethylethoxy)propanol:**

Species : Rabbit
 Result : No skin irritation

N-Methyl-2-pyrrolidone:

Species : Rabbit
 Method : OECD Test Guideline 404
 Result : Skin irritation
 Remarks : The test was conducted equivalent or similar to guideline

Hydrocarbons, C10, aromatics, <1% naphthalene:

Assessment : Repeated exposure may cause skin dryness or cracking.

N-[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide:

Species : Rabbit
 Method : OECD Test Guideline 404

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||Result : No skin irritation

4-[(1,5-Dihydro-3-methyl-5-oxo-1-phenyl-4H-pyrazol-4-ylidene)methyl]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one:

||Species : Rabbit
||Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

(2-Methoxymethylethoxy)propanol:

||Species : Rabbit
||Result : No eye irritation

N-Methyl-2-pyrrolidone:

||Species : Rabbit
||Result : Irritation to eyes, reversing within 21 days
||Method : OECD Test Guideline 405
||Remarks : The test was conducted equivalent or similar to guideline

Hydrocarbons, C10, aromatics, <1% naphthalene:

||Species : Rabbit
||Result : No eye irritation
||Remarks : Based on data from similar materials

N-[(4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide:

||Species : Rabbit
||Result : No eye irritation
||Method : OECD Test Guideline 405

4-[(1,5-Dihydro-3-methyl-5-oxo-1-phenyl-4H-pyrazol-4-ylidene)methyl]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one:

||Species : Rabbit
||Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

(2-Methoxymethylethoxy)propanol:

||Test Type : Human repeat insult patch test (HRIPT)

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Exposure routes	: Skin contact
Species	: Humans
Result	: negative

N-Methyl-2-pyrrolidone:

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: Skin contact
Species	: Mouse
Method	: OECD Test Guideline 429
Result	: negative
Remarks	: Based on data from similar materials

Hydrocarbons, C10, aromatics, <1% naphthalene:

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Result	: negative
Remarks	: Based on data from similar materials

N-[(4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide:

Test Type	: Buehler Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative

4-[(1,5-Dihydro-3-methyl-5-oxo-1-phenyl-4H-pyrazol-4-ylidene)methyl]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one:

Species	: Guinea pig
Result	: negative

Chronic toxicity**Germ cell mutagenicity**

Not classified based on available information.

Components:**(2-Methoxymethylethoxy)propanol:**

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
	Test Type: Chromosome aberration test in vitro Result: negative
	Test Type: Saacharomyces cerevisiae, mitotic recombination assay (in vitro) Result: negative

N-Methyl-2-pyrrolidone:

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Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Remarks: The test was conducted according to guideline Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative Remarks: The test was conducted according to guideline Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Method: OECD Test Guideline 482 Result: negative Remarks: The test was conducted equivalent or similar to guideline
Genotoxicity in vivo	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Method: OECD Test Guideline 474 Result: negative Remarks: The test was conducted according to guideline

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 (vapour) Result: negative Remarks: Based on data from similar materials

N-[[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative
Genotoxicity in vivo	: Test Type: Rodent dominant lethal test (germ cell) (in vivo) Species: Mouse Application Route: Intraperitoneal injection Result: negative

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Carcinogenicity

Not classified based on available information.

Components:**(2-Methoxymethylethoxy)propanol:**

Species	: Rat
Application Route	: inhalation (vapour)
Exposure time	: 2 Years
Method	: OECD Test Guideline 453
Result	: negative
Remarks	: Based on data from similar materials

N-Methyl-2-pyrrolidone:

Species	: Rat
Application Route	: Ingestion
Exposure time	: 2 Years
Method	: OECD Test Guideline 451
Result	: negative
Remarks	: The test was conducted according to guideline

Species	: Rat
Application Route	: Inhalation
Exposure time	: 2 Years
Method	: OECD Test Guideline 453
Result	: negative
Remarks	: The test was conducted equivalent or similar to guideline

N-[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide:

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

Reproductive toxicity

May damage the unborn child.

Components:**(2-Methoxymethylethoxy)propanol:**

Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 416 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	: Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Result: negative

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N-Methyl-2-pyrrolidone:

Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Method: OECD Test Guideline 416 Result: negative Remarks: The test was conducted according to guideline
Effects on foetal development	: Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Method: OECD Test Guideline 414 Result: positive Remarks: The test was conducted according to guideline Test Type: Fertility/early embryonic development Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 414 Result: positive Remarks: The test was conducted equivalent or similar to guideline Test Type: Embryo-foetal development Species: Rabbit Application Route: Ingestion Method: OECD Test Guideline 414 Result: positive Remarks: The test was conducted equivalent or similar to guideline
Reproductive toxicity - Assessment	: Clear evidence of adverse effects on development, based on animal experiments.

Hydrocarbons, C10, aromatics, <1% naphthalene:

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

N-[[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide:

Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative
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Effects on foetal development	:	Test Type: Embryo-foetal development
		Species: Rabbit
		Application Route: Ingestion
		Result: negative

4-[(1,5-Dihydro-3-methyl-5-oxo-1-phenyl-4H-pyrazol-4-ylidene)methyl]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one:

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: positive

Effects on foetal 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: positive

Reproductive toxicity - Assessment	:	Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of adverse effects on development, based on animal experiments.
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STOT - single exposure

May cause respiratory irritation.

Components:**N-Methyl-2-pyrrolidone:**

Assessment	:	May cause respiratory irritation.
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Hydrocarbons, C10, aromatics, <1% naphthalene:

Assessment	:	May cause drowsiness or dizziness.
Remarks	:	Based on data from similar materials

STOT - repeated exposure

Not classified based on available information.

Components:**N-[(4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide:**

Exposure routes	:	Ingestion
Target Organs	:	Blood, spleen, Liver
Assessment	:	Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

Exposure routes	:	inhalation (dust/mist/fume)
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Target Organs	: Blood, spleen, Liver
Assessment	: Shown to produce significant health effects in animals at concentrations of >0.02 to 0.2 mg/l/6h/d.

Exposure routes	: Skin contact
Target Organs	: Blood, spleen, Liver
Assessment	: Shown to produce significant health effects in animals at concentrations of >20 to 200 mg/kg bw.

Repeated dose toxicity**Components:****(2-Methoxymethylethoxy)propanol:**

Species	: Rat
NOAEL	: 1.21 mg/l
Application Route	: inhalation (vapour)
Exposure time	: 13 Weeks

Species	: Rat
NOAEL	: 1,000 mg/kg
Application Route	: Ingestion
Exposure time	: 4 Weeks

Species	: Rabbit
NOAEL	: 2,850 mg/kg
Application Route	: Skin contact
Exposure time	: 90 Days

N-Methyl-2-pyrrolidone:

Species	: Rat, male
NOAEL	: 169 mg/kg
LOAEL	: 433 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days
Method	: OECD Test Guideline 408
Remarks	: The test was conducted according to guideline

Species	: Rat
NOAEL	: 0.5 mg/l
LOAEL	: 1 mg/l
Application Route	: inhalation (dust/mist/fume)
Exposure time	: 96 Days
Method	: OECD Test Guideline 413
Remarks	: The test was conducted according to guideline

Species	: Rabbit, male
NOAEL	: 826 mg/kg
LOAEL	: 1,653 mg/kg
Application Route	: Skin contact
Exposure time	: 20 Days
Method	: OECD Test Guideline 410

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Remarks : The test was conducted equivalent or similar to guideline

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

N-[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide:

Species	: Rat
LOAEL	: 81 mg/kg
Application Route	: Ingestion
Exposure time	: 28 Days

Species	: Rabbit
NOAEL	: > 322 mg/kg
Application Route	: Skin contact
Exposure time	: 28 Days

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

Aspiration toxicity

Not classified based on available information.

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:****N-Methyl-2-pyrrolidone:**

Skin contact	: Symptoms: Skin irritation
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SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****(2-Methoxymethylethoxy)propanol:**

Toxicity to fish	: LC50 (Poecilia reticulata (guppy)): > 1,000 mg/l
	Exposure time: 96 h

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Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,919 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 969 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 969 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): >= 0.5 mg/l
Exposure time: 22 d

Toxicity to microorganisms : EC50 (Pseudomonas putida): 4,168 mg/l
Exposure time: 18 h

N-Methyl-2-pyrrolidone:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 500 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Method: DIN 38412
Remarks: The test was conducted according to guideline

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 600.5 mg/l
Exposure time: 72 h

EC10 (Desmodesmus subspicatus (green algae)): 92.6 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 12.5 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: The test was conducted according to guideline

Toxicity to microorganisms : EC50 (activated sludge): > 600 mg/l
Exposure time: 30 min
Method: ISO 8192
Remarks: The test was conducted according to guideline

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

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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 plants : EL50 (*Pseudokirchneriella subcapitata* (green algae)): > 1 - 3 mg/l
 Exposure time: 72 h
 Test substance: Water Accommodated Fraction
 Method: OECD Test Guideline 201
 Remarks: Based on data from similar materials

N-[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide:

Toxicity to fish : LC50 (*Cyprinodon variegatus* (sheepshead minnow)): > 0.13 mg/l
 Exposure time: 96 h
 Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 0.00026 mg/l
 Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (*Selenastrum capricornutum* (green algae)): > 0.2 mg/l
 Exposure time: 72 h
 Remarks: No toxicity at the limit of solubility

Toxicity to fish (Chronic toxicity) : NOEC (*Pimephales promelas* (fathead minnow)): 0.1 mg/l
 Exposure time: 35 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Daphnia magna* (Water flea)): 0.00004 mg/l
 Exposure time: 21 d

Toxicity to microorganisms : NOEC (activated sludge): 1,000 mg/l
 Exposure time: 3 h
 Method: OECD Test Guideline 209
 Remarks: The test was conducted according to guideline

4-[(1,5-Dihydro-3-methyl-5-oxo-1-phenyl-4H-pyrazol-4-ylidene)methyl]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one:

Toxicity to fish : LC50 (*Danio rerio* (zebra fish)): 22.7 mg/l
 Exposure time: 96 h
 Method: OECD Test Guideline 203
 Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 0.407 mg/l
 Exposure time: 48 h
 Method: OECD Test Guideline 202
 Remarks: No toxicity at the limit of solubility

Toxicity to algae/aquatic plants : EL50 (*Pseudokirchneriella subcapitata* (green algae)): > 1 mg/l

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Toxicity to microorganisms	:	Exposure time: 72 h
		Method: OECD Test Guideline 201
		Remarks: No toxicity at the limit of solubility
		EL10 (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
		Exposure time: 72 h
		Method: OECD Test Guideline 201
		Remarks: No toxicity at the limit of solubility
	:	EC50: > 1,000 mg/l
		Exposure time: 30 min
		Method: OECD Test Guideline 209

Persistence and degradability**Components:****(2-Methoxymethylethoxy)propanol:**

Biodegradability	:	Result: Readily biodegradable.
		Biodegradation: 76 %
		Exposure time: 28 d
		Method: OECD Test Guideline 301F
		Remarks: The test was conducted according to guideline

N-Methyl-2-pyrrolidone:

Biodegradability	:	Result: Readily biodegradable.
		Biodegradation: 73 %
		Exposure time: 28 d
		Method: OECD Test Guideline 301C
		Remarks: The test was conducted according to guideline

Biodegradation Simulation Tests	:	
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Environmental Compartment: Soil
Value type: DT50
Value: 11.5 d
Temperature: 20 °C
Remarks: No test guideline followed

Hydrocarbons, C10, aromatics, <1% naphthalene:

Biodegradability	:	Result: Not readily biodegradable.
		Biodegradation: 49.56 %
		Exposure time: 28 d
		Method: OECD Test Guideline 301F

N-[[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide:

Biodegradability	:	Result: Not readily biodegradable.
		Method: OECD Test Guideline 301
Biodegradation Simulation	:	Environmental Compartment: Soil

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Tests

Value type: DT50
Value: 2.2 - 6.2 d
Measurement method: OECD Test Guideline 307
Remarks: The test was conducted according to guideline

4-[(1,5-Dihydro-3-methyl-5-oxo-1-phenyl-4H-pyrazol-4-ylidene)methyl]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one:**Biodegradability**

: Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Bioaccumulative potential**Components:****(2-Methoxymethylethoxy)propanol:**

Partition coefficient: n-octanol/water : log Pow: 0.004

N-Methyl-2-pyrrolidone:

Partition coefficient: n-octanol/water : log Pow: -0.46
Method: OECD Test Guideline 107
Remarks: The test was conducted according to guideline

N-[(4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 78 - 360

Partition coefficient: n-octanol/water : log Pow: 3.7
Method: OECD Test Guideline 107

4-[(1,5-Dihydro-3-methyl-5-oxo-1-phenyl-4H-pyrazol-4-ylidene)methyl]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one:

Partition coefficient: n-octanol/water : log Pow: 5.02

Mobility in soil**Components:****N-[(4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide:**

Distribution among environmental compartments : log Koc: 3.5
Method: OECD Test Guideline 106
Remarks: The test was conducted according to guideline

Other adverse effects

No data available

Endocrine disrupting properties

No data available

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SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues	:	Do not dispose of waste into sewer. 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.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (N-[[[(4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide)
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. (N-[[[(4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide)
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. (N-[[[(4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide)
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.

National Regulations**ADG**

UN number	:	UN 3082
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Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(N-[[[(4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide)

Class : 9
Packing group : III
Labels : 9
Hazchem Code : •3Z
Environmentally hazardous : yes

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

Therapeutic Goods (Poisons Standard) Instrument : Schedule 6 (Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical)

Prohibition/Licensing Requirements : There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

National Code of Practice for Chemicals of Security Concern : Not listed

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

AICS : not determined

CA. DSL : not determined

CN IECSC : not determined

SECTION 16: ANY OTHER RELEVANT INFORMATION**Further information**

Revision Date : 09.05.2026
Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : dd.mm.yyyy

Full text of other abbreviations

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ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
AU OEL : Australia. Workplace Exposure Standards for Airborne Contaminants.

ACGIH / TWA : 8-hour, time-weighted average
AU OEL / TWA : Exposure standard - time weighted average
AU OEL / STEL : Exposure standard - short term exposure limit

AIIIC - 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 Harmonised 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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; 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 - Organisation 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 Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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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