

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture	AMX
Registration number	-
Synonyms	AMX® * Alpha Max * ALPHA MAX® * AMX Deltametrina 10mg/ml * AMX® Deltametrina 10 mg/ml
Issue date	16-October-2018
Version number	02
Revision date	06-May-2020
Supersedes date	16-October-2018

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Veterinary Medicinal Product.

Uses advised against Not for human use.

1.3. Details of the supplier of the safety data sheet

Company name: PHARMAQ AS (part of Zoetis)

Office address: Industrivegen 50

Postal address: Skogmo Industriområde

NO-7863

Overhalla, Norway

Phone number: +47 74 28 08 00

Fax number: +47 74 28 08 01

Email: customer.service@pharmaq.no

Website: <http://www.pharmaq.no>

Emergency telephone number: Norway (Giftinformasjonen): +47 22 59 13 00

United Kingdom: 999 or 112

Italy: 112

Spain (Servicio De Información Toxicológica): +34 91 562 04 20

Additional emergency telephone number: International CHEMTREC (24 hours): +1-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Reproductive toxicity (the unborn child)	Category 1B	H360D - May damage the unborn child.
Specific target organ toxicity - single exposure	Category 3 respiratory tract irritation	H335 - May cause respiratory irritation.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard	Category 1	H410 - Very toxic to aquatic life with long lasting effects.
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Hazard summary Causes serious eye irritation. Causes skin irritation. May cause irritation to the respiratory system. May cause reproductive effects. Dangerous for the environment if discharged into watercourses. Occupational exposure to the substance or mixture may cause adverse health effects.

2.2. Label elements

Material name: AMX

Version #: 02 Revision date: 06-May-2020 Issue date: 16-October-2018

Label according to Regulation (EC) No. 1272/2008 as amended**Contains:** 2-Methylpropan-1-ol, Deltamethrin, N-methyl-2-pyrrolidone**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.
 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.
 P261 Avoid breathing mist/vapor.
 P264 Wash thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P308 + P313 IF exposed or concerned: Get medical advice/attention.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337 + P313 If eye irritation persists: Get medical advice/attention.
 P302 + P352 IF ON SKIN: Wash with plenty of water.
 P332 + P313 If skin irritation occurs: Get medical advice/attention.
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P312 Call a POISON CENTRE/doctor if you feel unwell.
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P391 Collect spillage.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.

Disposal

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

Supplemental label information None.**2.3. Other hazards** Not a PBT or vPvB substance or mixture.**SECTION 3: Composition/information on ingredients****3.2. Mixtures****General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Deltamethrin	1	52918-63-5 258-256-6	-	607-319-00-X	
Classification:		Acute Tox. 3;H301, Acute Tox. 3;H311, Acute Tox. 3;H331, Aquatic Acute 1;H400(M=1000000), Aquatic Chronic 1;H410(M=1000000)			
2-Methylpropan-1-ol	0,5	78-83-1 201-148-0	-	603-108-00-1	
Classification:		Flam. Liq. 3;H226, Skin Irrit. 2;H315, Eye Dam. 1;H318, STOT SE 3;H335, STOT SE 3;H336			
N-methyl-2-pyrrolidone	≥ 25	872-50-4 212-828-1	-	606-021-00-7	#
Classification:		Skin Irrit. 2;H315, Eye Irrit. 2;H319, STOT SE 3;H335, Repr. 1B;H360D			

List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. For personal protection, see section 8 of the SDS.

4.1. Description of first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist. For breathing difficulties, oxygen may be necessary.

Skin contact Remove contaminated clothing. Wash off with soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Call a physician or poison control centre immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Monitor respiratory, cardiac and central nervous system.

SECTION 5: Firefighting measures

General fire hazards No unusual fire or explosion hazards noted. Material will burn in a fire.

5.1. Extinguishing media

Suitable extinguishing media Alcohol resistant foam. Powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained.

For emergency responders Keep unnecessary personnel away. Ensure adequate ventilation. Ventilate the contaminated area. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapour. Avoid contact with eyes, skin, and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

6.2. Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Remove sources of ignition. Ensure adequate ventilation. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean surface thoroughly to remove residual contamination.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Use only with adequate ventilation. Wear appropriate personal protective equipment. Avoid breathing mist or vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash thoroughly after handling. Wash contaminated clothing before reuse. Avoid release to the environment. Use appropriate container to avoid environmental contamination.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store in a well-ventilated place. Store at room temperature. Store in original tightly closed container. Keep away from heat, sparks and open flame. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children. Use appropriate container to avoid environmental contamination. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)

Veterinary antiparasitic.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value	Form
2-Methylpropan-1-ol (CAS 78-83-1)	MAK	150 mg/m ³	
		50 ppm	
	STEL	600 mg/m ³	
N-methyl-2-pyrrolidone (CAS 872-50-4)		200 ppm	
	MAK	40 mg/m ³	Vapour.
		10 ppm	Vapour.
	STEL	80 mg/m ³	Vapour.
		20 ppm	Vapour.

Belgium. Exposure Limit Values.

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	154 mg/m ³
		50 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TWA	40 mg/m ³
		10 ppm

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TWA	40 mg/m ³
		10 ppm

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	MAC	154 mg/m ³
		50 ppm
	STEL	231 mg/m ³
		75 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	MAC	40 mg/m ³

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09 Components

Components	Type	Value
		10 ppm
	STEL	80 mg/m ³
		20 ppm

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended. Components

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	150 mg/m ³
		50 ppm

Czech Republic. OELs. Government Decree 361 Components

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	Ceiling	600 mg/m ³
	TWA	300 mg/m ³
N-methyl-2-pyrrolidone (CAS 872-50-4)	Ceiling	80 mg/m ³
	TWA	40 mg/m ³

Denmark. Exposure Limit Values Components

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	Ceiling	150 mg/m ³
		50 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	TLV	20 mg/m ³
		5 ppm

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001) Components

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	150 mg/m ³
		50 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TWA	40 mg/m ³
		10 ppm

Finland. Workplace Exposure Limits Components

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	STEL	230 mg/m ³
		75 ppm
	TWA	150 mg/m ³
		50 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TWA	40 mg/m ³
		10 ppm

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984 Components

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	VME	150 mg/m ³

Regulatory status: Indicative limit (VL)

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value
		50 ppm
Regulatory status: Indicative limit (VL)		
N-methyl-2-pyrrolidone (CAS 872-50-4)	VLE	80 mg/m3
Regulatory status: Regulatory indicative (VRI)		
		20 ppm
Regulatory status: Regulatory indicative (VRI)		
	VME	40 mg/m3
Regulatory status: Regulatory indicative (VRI)		
		10 ppm
Regulatory status: Regulatory indicative (VRI)		

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	310 mg/m3	
		100 ppm	
N-methyl-2-pyrrolidone (CAS 872-50-4)	TWA	82 mg/m3	Vapour and aerosol.
		20 ppm	Vapour and aerosol.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
2-Methylpropan-1-ol (CAS 78-83-1)	AGW	310 mg/m3	
		100 ppm	
N-methyl-2-pyrrolidone (CAS 872-50-4)	AGW	82 mg/m3	Vapour.
		20 ppm	Vapour.

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	STEL	300 mg/m3
		100 ppm
	TWA	300 mg/m3
		100 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m3
		20 ppm
	TWA	40 mg/m3
		10 ppm

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m3
	TWA	40 mg/m3

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	STEL	150 mg/m3
		50 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m3
		20 ppm

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value
	TWA	40 mg/m ³ 10 ppm

Ireland. Occupational Exposure Limits

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	STEL	225 mg/m ³ 75 ppm
	TWA	150 mg/m ³ 50 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³ 20 ppm
	TWA	40 mg/m ³ 10 ppm

Italy. Occupational Exposure Limits

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	50 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³ 20 ppm
	TWA	40 mg/m ³ 10 ppm

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	10 mg/m ³
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³ 20 ppm
	TWA	40 mg/m ³ 10 ppm

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	10 mg/m ³
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³ 20 ppm
	TWA	40 mg/m ³ 10 ppm

Luxembourg. Binding Occupational exposure limit values (Annex I), Memorial A

Components	Type	Value
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³ 20 ppm
	TWA	40 mg/m ³ 10 ppm

Malta. OELs. Occupational Exposure Limit Values (L.N. 227. of Occupational Health and Safety Authority Act (CAP. 424), Schedules I and V)

Components	Type	Value
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³

Malta. OELs. Occupational Exposure Limit Values (L.N. 227. of Occupational Health and Safety Authority Act (CAP. 424), Schedules I and V)

Components	Type	Value
		20 ppm
	TWA	40 mg/m ³
		10 ppm

Netherlands. OELs (binding)

Components	Type	Value
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
	TWA	40 mg/m ³

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	Ceiling	75 mg/m ³
		25 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TLV	20 mg/m ³
		5 ppm

Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	STEL	200 mg/m ³
	TWA	100 mg/m ³
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
	TWA	40 mg/m ³

Portugal. OELs. Decree-Law n. 290/2001 (Journal of the Republic - 1 Series A, n.266)

Components	Type	Value
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TWA	40 mg/m ³
		10 ppm

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	50 ppm

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	STEL	200 mg/m ³
		66 ppm
	TWA	100 mg/m ³
		33 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TWA	40 mg/m ³
		10 ppm

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	310 mg/m ³
		100 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TWA	40 mg/m ³ 10 ppm

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	310 mg/m ³	
		100 ppm	
N-methyl-2-pyrrolidone (CAS 872-50-4)	TWA	40 mg/m ³	Vapour.
		10 ppm	Vapour.

Spain. Occupational Exposure Limits

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	TWA	154 mg/m ³
		50 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TWA	40 mg/m ³ 10 ppm

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	STEL	250 mg/m ³
		75 ppm
	TWA	150 mg/m ³ 50 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	Ceiling	80 mg/m ³
	TWA	20 ppm
		40 mg/m ³ 10 ppm

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
2-Methylpropan-1-ol (CAS 78-83-1)	STEL	150 mg/m ³	
		50 ppm	
	TWA	150 mg/m ³ 50 ppm	
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	160 mg/m ³	Vapour and aerosol.
		40 ppm	Vapour and aerosol.
	TWA	80 mg/m ³	Vapour and aerosol.
		20 ppm	Vapour and aerosol.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
2-Methylpropan-1-ol (CAS 78-83-1)	STEL	231 mg/m ³
		75 ppm
	TWA	154 mg/m ³ 50 ppm
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TWA	40 mg/m ³ 10 ppm

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Components	Type	Value
N-methyl-2-pyrrolidone (CAS 872-50-4)	STEL	80 mg/m ³
		20 ppm
	TWA	40 mg/m ³ 10 ppm

Biological limit values**Croatia. BLV. Dangerous Substance Exposure Limit Values at Workplace, Annexes 4 (as amended)**

Components	Value	Determinant	Specimen	Sampling Time
N-methyl-2-pyrrolidone (CAS 872-50-4)	70 mg/g	5-Hydroxy-N-methyl-2-pyrrolidone	Creatinine in urine	*
	20 mg/g	2-Hydroxy-N-methylsuccinimide	Creatinine in urine	*

* - For sampling details, please see the source document.

Germany. TRGS 903, BAT List (Biological Limit Values)

Components	Value	Determinant	Specimen	Sampling Time
N-methyl-2-pyrrolidone (CAS 872-50-4)	150 mg/l	5-Hydroxy-N-methyl-2-pyrrolidone	Urine	*

* - For sampling details, please see the source document.

Spain. Biological Limit Values (VLBs), Occupational Exposure Limits for Chemical Agents, Table 4

Components	Value	Determinant	Specimen	Sampling Time
N-methyl-2-pyrrolidone (CAS 872-50-4)	70 mg/g	5-Hydroxy-N-methyl-2-pyrrolidone	Creatinine in urine	*
	20 mg/g	2-Hydroxy-N-methylsuccinimide	Creatinine in urine	*

* - For sampling details, please see the source document.

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines NMP (CASRN 872-50-4): DNEL: Derived No Effect Level.
ECHA: European Chemical Agency.
Inhalation. 14,4 mg/m³. Dermal 4,8 mg/kg/day.

EU Exposure Limit Values: Skin designation

N-methyl-2-pyrrolidone (CAS 872-50-4) Can be absorbed through the skin.

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

N-methyl-2-pyrrolidone (CAS 872-50-4) Can be absorbed through the skin.

Control banding approach Deltamethrin: Zoetis OEB 4 - Sensitizer (control exposure to the range of 1ug/m³ to <10ug/m³, provide additional precautions to protect from skin contact)

8.2. Exposure controls

Appropriate engineering controls

Avoid exposure - obtain special instructions before use. Ensure adequate ventilation, especially in confined areas. Keep air contamination levels below the exposure limits or within the OEB range listed above in this section. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

General information

Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Wear tight-fitting goggles or face shield. (e.g. EN 166).

Skin protection

- Hand protection

REACH: Risk Management Measures for Workers - Dermal

Wear appropriate chemical resistant gloves. Impervious gloves. Nitrile or neoprene gloves are recommended. (Ref: BS-EN 374, BS-EN 420).

- Other

REACH: Risk Management Measures for Workers - Dermal

Wear appropriate chemical resistant clothing. Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.

Respiratory protection

REACH: Risk Management Measures for Workers - Inhalation

Do not breathe dust/fume/gas/mist/vapours/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Whenever air contamination (mist, vapor or odor) is generated, respiratory protection is recommended as a precaution to minimize exposure. If airborne exposures are within or exceed the Occupational Exposure Band (OEB) range, wear an appropriate respirator with a protection factor sufficient to control exposures to the bottom of the OEB range. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. (Ref: EN 143).

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls

Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Liquid.

Form

Liquid.

Colour

Light yellow.

Odour

Slight. Amine-like.

Odour threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

Not available.

Flash point

100,0 °C (212,0 °F)

Evaporation rate

Not available.

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Vapour pressure

Not available.

Vapour density

Not available.

Relative density

Not available.

Solubility(ies)	
Solubility (water)	Miscible @ 20C/68F
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2. Other information

Density 1,04 g/cm³ @ 20C/68F

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials. Avoid temperatures exceeding the flash point. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
10.5. Incompatible materials	Peroxides. Phenols. Oxidizing agents.
10.6. Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. May include products of carbon, nitrogen.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation May cause irritation to the respiratory system. Prolonged inhalation may be harmful.

Skin contact Causes skin irritation.

Deltamethrin

Species: Rabbit
Severity: Non-irritating

Eye contact Causes serious eye irritation.

Deltamethrin

Species: Rabbit
Severity: Mild

N-methyl-2-pyrrolidone

Species: Rabbit
Severity: Moderate

Ingestion May be harmful if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

11.1. Information on toxicological effects

Acute toxicity

Product	Species	Test Results
AMX		
Dermal		
ATE		> 10000 mg/kg
Inhalation		
ATE		> 10 mg/l
Oral		
ATE		> 5000 mg/kg
Components	Species	Test Results
2-Methylpropan-1-ol (CAS 78-83-1)		
Acute		
Dermal		
LD50	Rabbit	3392 mg/kg

Components	Species	Test Results
Oral LD50	Rat	2,46 g/kg
Deltamethrin (CAS 52918-63-5)		
Acute		
Dermal LD50	Rat	> 2000 mg/kg 700 mg/kg
Inhalation		
LC50	Rat	0,232 mg/l
Oral LD50	Rat	87,4 mg/kg
Chronic		
Oral NOAEL	Mouse	1 mg/kg/day, 97 weeks Central nervous system; Not carcinogenic
Subacute		
Dermal NOAEL	Rat	1000 mg/kg/day, 21 days No effects at maximum dose
Subchronic		
Oral NOAEL	Dog	10 mg/kg/day, 13 weeks Central nervous system
	Rat	10 mg/kg/day, 13 weeks Central nervous system
N-methyl-2-pyrrolidone (CAS 872-50-4)		
Acute		
Dermal LD50	Rabbit	8000 mg/kg
Oral LD50	Mouse	7725 mg/kg
	Rat	3914 mg/kg
Chronic		
Inhalation NOEL	Rat	0,4 mg/l, 2 years Not carcinogenic
Subacute		
Oral NOAEL	Mouse	2500 ppm, 28 days Kidney
	Rat	6000 ppm, 28 days None identified
Skin corrosion/irritation	Causes skin irritation.	
Corrosivity Deltamethrin	Species: Rabbit Severity: Non-irritating	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Eye contact Deltamethrin	Species: Rabbit Severity: Mild	
N-methyl-2-pyrrolidone	Species: Rabbit Severity: Moderate	
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.	
Skin sensitisation	Due to partial or complete lack of data the classification is not possible. Pyrethroids can cause allergic dermatitis.	

Skin sensitisation

Deltamethrin

GPMT

Species: Guinea Pig

Severity: negative

Germ cell mutagenicity

Due to partial or complete lack of data the classification is not possible.

Mutagenicity

Deltamethrin

Bacterial Mutagenicity (Ames)

Result: negative

Species: Salmonella , E. coli

N-methyl-2-pyrrolidone

Bacterial Mutagenicity (Ames)

Result: negative

Species: Salmonella

Deltamethrin

In Vivo Cytogenetics

Result: negative

Species: Mouse Bone Marrow

In Vivo Micronucleus

Result: negative

Species: Mouse Bone Marrow

Carcinogenicity

Due to partial or complete lack of data the classification is not possible.

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

IARC Monographs. Overall Evaluation of Carcinogenicity

Deltamethrin (CAS 52918-63-5)

3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity

May damage the unborn child.

Developmental effects

N-methyl-2-pyrrolidone

0,36 mg/l Embryo / Fetal Development, Maternal Toxicity Not Teratogenic

Result: NOEL

Species: Rat

Organ: Inhalation

Deltamethrin

10 mg/kg/day Embryo / Fetal Development, Not Teratogenic

Result: NOAEL

Species: Mouse

Organ: Oral

10 mg/kg/day Embryo / Fetal Development, Not Teratogenic

Result: NOAEL

Species: Rat

Organ: Oral

12 mg/kg/day Fertility and Embryonic Development, No effects at maximum dose

Result: NOAEL

Species: Mouse

Organ: Oral

N-methyl-2-pyrrolidone

237 mg/kg Embryo / Fetal Development, Maternal Toxicity Fetotoxicity Not Teratogenic

Result: NOAEL

Species: Rat

Organ: Dermal

Deltamethrin

5 mg/kg/day Fertility and Embryonic Development, No effects at maximum dose

Result: NOAEL

Species: Rat

Organ: Oral

Reproductivity
N-methyl-2-pyrrolidone

237 mg/kg/day Reproductive & Fertility, Maternal toxicity
Fetotoxicity
Result: NOEL
Species: Rat
Organ: Dermal

Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible. This product may affect Nervous system. through prolonged or repeated exposure.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information	No information available
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity Very toxic to aquatic life with long lasting effects. Avoid release to the environment.

Components	Species	Test Results	
2-Methylpropan-1-ol (CAS 78-83-1)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia pulex</i>)	950 - 1200 mg/l, 48 hours
Fish	LC50	Bleak (<i>Alburnus alburnus</i>)	1000 - 3000 mg/l, 96 hours
Deltamethrin (CAS 52918-63-5)			
Aquatic			
Crustacea	EC50	<i>Daphnia magna</i> (Water Flea)	0,0001 mg/l, 48 Hours
Fish	LC50	<i>Brachydanio rerio</i> (Zebra fish)	0,002 mg/l, 96 Hours
		Carp (<i>Cyprinus carpio</i>)	0,0019 - 0,0026 mg/l, 96 hours
		<i>Lepomis macrochirus</i> (Bluegill Sunfish)	0,0007 mg/l, 96 Hours
		<i>Oncorhynchus mykiss</i> (rainbow trout)	0,0004 mg/l, 96 Hours

12.2. Persistence and degradability No data is available on the degradability of this product.

12.3. Bioaccumulative potential No data available for this product.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available for this product.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture. Not available.

12.6. Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.7. Additional information

Estonia Dangerous substances in groundwater Data

2-Methylpropan-1-ol (CAS 78-83-1) Pesticides (total) 0,5 ug/l
Pesticides (total) 5 ug/l

Estonia Dangerous substances in soil Data

2-Methylpropan-1-ol (CAS 78-83-1) Synthetic pesticides (total of active substances) 0,5 mg/kg
Synthetic pesticides (total of active substances) 20 mg/kg
Synthetic pesticides (total of active substances) 5 mg/kg

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

EU waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. EWC: 18 02 05.

Disposal methods/information	Avoid release to the environment. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Deltamethrin)
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
Hazard No. (ADR)	90
Tunnel restriction code	-
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Deltamethrin)
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Deltamethrin)
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

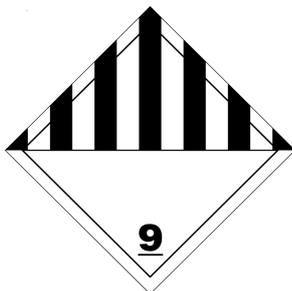
IATA

14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Deltamethrin)
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	Yes
ERG Code	9L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

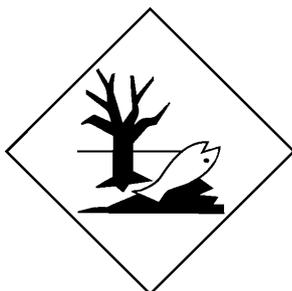
IMDG

14.1. UN number	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Deltamethrin), MARINE POLLUTANT
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-F
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

ADN; ADR; IATA; IMDG; RID



Marine pollutant



General information

IMDG Regulated Marine Pollutant. As of January 1, 2015, materials offered for transport that are classified for transportation only as Marine Pollutants and which are packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 Liters or less for liquids or having a net mass per single or inner packaging of 5 kilograms or less for solids are NOT subject to ICAO/IATA, IMDG, or ADR transport regulations provided the general packaging requirements of those regulations are met. Refer to ICAO/IATA A197, IMDG 2.10.2.7, ADR SP 375. Please refer to the applicable dangerous goods regulations for additional information. Transport according to the requirements of the appropriate regulatory body.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

N-methyl-2-pyrrolidone (CAS 872-50-4)

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

N-methyl-2-pyrrolidone (CAS 872-50-4)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

2-Methylpropan-1-ol (CAS 78-83-1)

Deltamethrin (CAS 52918-63-5)

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended.

Follow national regulation on the protection of workers from the risks of exposure to carcinogens and mutagens at work, in accordance with Directive 2004/37/EC.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ATE: Acute Toxicity Estimate according to REGULATION (EC) No 1272/2008 (CLP).

References

Not available.

Information on evaluation method leading to the classification of mixture

The data contained in this SDS may have been gathered from confidential internal sources, raw material suppliers, or from the published literature. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any H-statements not written out in full under Sections 2 to 15

H226 Flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360D May damage the unborn child.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Revision information

SECTION 8: Exposure controls/personal protection: Appropriate engineering controls
SECTION 8: Exposure controls/personal protection: Exposure guidelines
SECTION 8: Exposure controls/personal protection: Eye/face protection
SECTION 8: Exposure controls/personal protection: - Hand protection
SECTION 8: Exposure controls/personal protection: Respiratory protection
SECTION 8: Exposure controls/personal protection: - Other
Transport Information: Material Transportation Information

Training information

Follow training instructions when handling this material.

Disclaimer

Zoetis Inc. believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time. The information in the sheet was written based on the best knowledge and experience currently available.