



Material Safety Data Sheet (MSDS)

Promate 24% SC

IDENTIFICATION OF THE SUPPLIER:

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PRODUCT IDENTIFICATION:

Common name :	Spirotetramat
Trade name	Promate SC
Uses category	Insecticide
Type of formulation	suspension concentrate
Chemical name	cis-4-(Ethoxycarbonyloxy)-8-methoxy-3-(2,5-xylyl)-1-azaspiro[4.5]dec-3-en-2-one cis-3-(2,5-Dimethylphenyl)-8-methoxy-2-oxo-1-azaspiro[4.5]dec-3-en-4-yl ethyl carbonate
Chemical formula	C ₂₁ H ₂₇ NO ₅
Molecular weight	373.5

PRODUCT COMPOSITION:

<i>Active ingredient</i>	<i>CAS#</i>	<i>w/v</i>
Spirotetramat	[203313-25-1]; [382608-10-8]	24%



Inert materials: up to 1 liter

HAZARDS IDENTIFICATION:

Classification in accordance with regulation HCS 29CFR §1910.1200

Skin sensitisation: Category 1B

Reproductive toxicity: Category 2

Specific target organ toxicity - single exposure: Category 3

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Warning

Hazard statements May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

May cause respiratory irritation.

Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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

Avoid breathing mist/ spray.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN: Wash with plenty of water/ soap.

If skin irritation or rash occurs: Get medical advice/ attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Specific treatment (see supplemental first aid instructions on this label).

Wash contaminated clothing before reuse.

IF exposed or concerned: Get medical advice/ attention.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/container in accordance with local regulation.

Hazards Not Otherwise Classified (HNOC)

No physical hazards not otherwise classified.





No health hazards not otherwise classified.

FIRST-AID MEASURES:

Description of first aid measures

General advice When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Inhalation Move to fresh air. If person is not breathing, give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Skin contact Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Eye contact Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms

To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment

Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote

ACCIDENTAL RELEASE:

Personal precautions, protective equipment and emergency procedures

Precautions

Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up Methods for cleaning up





Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice

Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.

HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Hygiene measures

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

PHYSICAL-CHEMICAL DATA:

Appearance white to light beige

Physical State Liquid

Odor weak chalk-like

Odour Threshold No data available

pH 4.5

Vapor Pressure No data available

Vapor Density (Air = 1) No data available





Density 1.07 g/cm³ at 20 °C
Evaporation rate No data available
Boiling Point No data available
Melting / Freezing Point No data available
Water solubility dispersible
Minimum Ignition Energy Not applicable
Decomposition temperature Not applicable
Partition coefficient: n-octanol/water No data available
Flash point > 100 °C
Auto-ignition temperature No data available
Lower explosion limit No data available
Upper explosion limit No data available
Explosivity Not applicable

STABILITY AND REACTIVITY

Reactivity

Thermal decomposition Not applicable
Chemical stability Stable under normal conditions.
Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.
Conditions to avoid freezing
Incompatible materials No data available
Hazardous decomposition products
No decomposition products expected under normal conditions of use

PERSONAL PROTECTION/SAFETY:

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Spirotetramat	203313-25-1	1.4 mg/m ³ (SK-SEN)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls
Personal protective equipment





In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection

Chemical resistant nitrile rubber gloves

Eye protection

Safety glasses with side-shields

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures

Remove contaminated clothing immediately and dispose of safely.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.

Keep and wash PPE separately from other laundry.

ACUTE TOXICITY (IRRITATION, SENSITISATION ETC.)

Exposure routes Skin contact, Skin Absorption, Ingestion

Immediate Effects Eye May cause mild irritation to eyes.

Skin Harmful if absorbed through skin.

Ingestion Harmful if swallowed

Information on toxicological effects

Acute oral toxicity LD50 (female Rat) > 2,000 mg/kg

Acute inhalation toxicity

LC50 (male/female combined Rat) > 3.0 mg/l

Exposure time: 4 h

Determined in the form of liquid aerosol.

Highest attainable concentration.

No deaths

Acute dermal toxicity LD50 (male/female combined Rat) > 4,000 mg/kg

Skin corrosion/irritation No skin irritation (Rabbit)

Serious eye damage/eye irritation Mild eye irritation. (Rabbit)

Respiratory or skin Sensitising (Guinea pig)
sensitisation

Assessment STOT Specific target organ toxicity – repeated exposure

Spirotetramat did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity



Spirotetramat was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Spirotetramat was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None

Assessment toxicity to reproduction

Spirotetramat caused male reproductive toxicity in the presence of general toxicity in the rat at very high experimental dose levels. There were no effects on male fertility in mice and dogs. The reproductive toxicity seen with Spirotetramat is due to an overwhelmed elimination capacity at high doses. The high dose levels needed for this effect cannot be achieved even in a worst case exposure scenario.

Assessment developmental toxicity

Spirotetramat caused developmental toxicity only at dose levels toxic to the dams. Spirotetramat caused a delayed foetal growth, an increased incidence of variations.

Further information

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the active ingredient(s).

ECOLOGICAL INFORMATION: -

Toxicity to fish

LC50 (Lepomis macrochirus (Bluegill sunfish)) 2.20 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient spirotetramat

Toxicity to aquatic invertebrates EC50 (Daphnia magna (Water flea)) > 42.7 mg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient spirotetramat

EC50 (Chironomus riparius (non-biting midge)) 0.46 mg/l

Exposure time: 28 d

The value mentioned relates to the active ingredient spirotetramat.

NOEC (Chironomus riparius (non-biting midge)) 0.1 mg/l

Exposure time: 28 d

The value mentioned relates to the active ingredient spirotetramat





Toxicity to aquatic plants

IC50 (Raphidocelis subcapitata (freshwater green alga)) 8.15 mg/l

Growth rate; Exposure time: 72 h

The value mentioned relates to the active ingredient spirotetramat.

Biodegradability

Spirotetramat:

Not rapidly biodegradable

Koc

Spirotetramat: Koc: 289

Bioaccumulation

Spirotetramat:

Does not bioaccumulate.

Mobility in soil

Spirotetramat: Moderately mobile in soils

Environmental precautions

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.

Do not allow to get into surface water, drains and ground water.

Do not apply when weather conditions favor runoff or drift.

Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites.

Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

Apply this product as specified on the label.

Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

DISPOSAL CONSIDERATIONS:

Waste treatment methods

Product

Dispose in accordance with all local, state/provincial and federal regulations.

Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law.

If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated packaging

Follow advice on product label and/or leaflet.

Do not re-use empty containers.

Triple rinse containers.





مؤسسة صناعات الكيماويات الزراعية
AGRO CHEMICALS INDUSTRIES LTD.



Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning.
If burned, stay out of smoke.

