

MATERIAL SAFETY DATA SHEET SPIRALA 240

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1	IDENTIFICATION OF THE SUBSTANCE/PREPARATION	SPIRALA 240 (Spinosad 240 g/L SE))
	CHEMICAL NAME	<p>Spinosyn A: (2R,3aS,5aR,5bS,9S,13S,14R,16aS,16bR)-2-(6-deoxy-2,3,4-tri-O-methyl-a-L-mannopyranosyloxy)-13-, (4-dimethylamino-2,3,4,6-tetra-deoxy-, b-D-erythro-pyranosyloxy)-9-ethyl-2,3,3a,5a,5b,6,7,9,10,11,12,13,14,15,16a,16b-hexadecahydro-14-methyl-, 1H-as-indaceno[3,2-d],oxacyclododecine-7,15-dione</p> <p>Spinosyn D: (2S,3aR,5aS,5bS,9S,13S,14R,16aS,16bS)-2-(6-deoxy-2,3,4-tri-O-methyl-a-L-mannopyranosyloxy)-13-(4-dimethylamino-2,3,4,6-tetra-deoxy-b-Derythro-pyranosyloxy)-9-ethyl-2,3,3a,5a,5b,6,7,9,10,11,12,13,14,15,16a,16b-hexadecahydro-4,14-dimethyl-1H-as-indaceno[3,2-d]oxacyclododecine-7,15-dione</p>
1.2	OTHER MEANS OF IDENTIFICATION	N/A
1.3	USE OF PREPARATION	Insecticide
1.4	COMPANY/UNDERTAKING IDENTIFICATION	Dor.Ky D&D LTD P.O.B. 232 Nes Ziona, 70400, Israel Tel: +972-8-933 3474 Fax: +972-8-933 0109 Factory address:3 Habonim St. Kiryat Gat 8258203
1.5	EMERGENCY TELEPHONE NUMBER	The Israeli Poisoning Centre Tel: +972-4-777 1900 Fax: +972-4-854 2029

2. HAZARDOUS IDENTIFICATION

2.1 Classification of the mixture

2.1.1 Classification according to GHS Regulations

- Health hazards: Acute Tox 4 – Category 4 – Warning – H332
- Environmental hazards: Aquatic Chronic 1 – Category 1 - Warning - H410

2.2 label elements

- Hazard pictograms:






- Hazard pictograms-Codes: GHS07 GHS09

<ul style="list-style-type: none"> Signal words: Warning 	
Hazard statements:	H332 – Harmful if inhaled. H410 – Very toxic to aquatic life with long lasting effects
Precautionary statements:	
- Preventive:	P261: Avoid breathing spray P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment.
- Response:	P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P317: Get medical help. P391: Collect spillage.
- Disposal:	P501: Dispose of contents/container in accordance with local regulation

3. COMPOSITION/INFORMATION ON INGREDIENTS

Information on hazardous ingredients*

Common name	CAS No.	%	EC Number	Symbol	Hazard
Spinosad	168316-95-8	24	434-300-1	 H410	Aquatic Chronic 1 –
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	-----	≥5-≤15	918-481-9		Acute Tox 1 – H304
Alcohol C11, ethoxylated	127036-24-2	≥1-≤3	603-182-5		Acute Tox 4 - H302 Eye Dam. 1 – H318

For occupational exposure limits, see section 8

For the full text of the H statements in this section, see section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

4.1.1	EYE CONTACT	Wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Get medical attention
	SKIN CONTACT	Remove contaminated clothing. Wash away remainder with water and soap
	INHALATION	Remove victim to fresh air. If breathing is difficult: artificial respiration. Get medical attention.
	INGESTION	Wash out mouth with plenty of water. Get medical attention. Never give anything by mouth to an unconscious person.
4.1.2	Advice	Remove victim from area of exposure. Wash off remaining material with plenty of water.

		For more medical advice see Section 4.1.1.
4.2	Most important symptoms and effects, both acute and delayed	In general, no effects are expected for oral, dermal and inhalation routes under conditions for normal use.
4.3	Indication of any immediate medical attention and special treatment needed	Note to physician: No special antidote. Treat symptomatically and supportively.
5. FIRE-FIGHTING MEASURES		
5.1	Firefighting media:	Water spray, foam, carbon dioxide and sand
5.2	Special hazards arising from the substance or mixture	In a fire, formation of carbon oxides can be expected.
5.3	Advice for firefighters	For fire-fighters: Self-contained breathing apparatus and total protection required in enclosed areas. Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Otherwise, use water spray to cool them. Bund area with sand to prevent contamination of drains or waterways. Dispose of fire control water, another extinguishing agent or spillage later on. Do not release contaminated water into the environment.
6. ACCIDENTAL RELEASE MEASURES		
6.1	Personal precautions	Avoid contact with spilled material or contaminated surfaces. When dealing with spills do not eat, drink, or smoke and wear protective clothing and equipment as described in Section 8. Keep people and animals away.
6.2	Environmental precautions	Do not discharge into drains or the environment
6.3	Methods for cleaning up	contain spills and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labeled, sealed, drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.
7. HANDLING AND STORAGE		
7.1	Handling	Keep out of reach of children. Wash hands thoroughly with soap after handling and before eating, drinking, and smoking. After each day's use, wash gloves and contaminated clothing
7.2	Storage	Keep only in the original container. Keep in a cool, dry, well-ventilated place away from direct sunlight. Flammability: not flammable

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION		
8.1 Control parameters		
Industrial Hygiene measures	Ventilation required. When handlings do not eat, drink, or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use. Contaminated work clothing should not be allowed out of the workplace.	
Personal protective equipment		
- Respiratory system	Respiratory protection is not required if good ventilation is maintained. However, If operating conditions result in airborne concentrations of this material, the use of an approved respirator is recommended.	
- Skin and body	Applicators and other handlers must wear long-sleeved shirt and long pants, shoes plus socks and chemical-resistant gloves made of any waterproof material. Remove and wash contaminated clothing separately	
- Hands	Chemical resistant gloves.	
- Eyes	Safety goggles or face shield	
8.2 Occupational Exposure Limits		
Spinosad	TWA 0.3 mg/m ³ (Dow)	
Naphtha (petroleum), hydrotreated, heavy	TWA 400 mg/m ³ (100 ppm)	
Alcohol C11, ethoxylated	Not established	
9. PHYSICAL AND CHEMICAL PROPERTIES		
APPEARANCE	homogeneous suspoemulsion (SE)	
COLOUR	beige	
ODOUR	Slight characteristic	
FLASH POINT	> 75°C	
FLAMMABILITY	Non-flammable	
EXPLOSIVITY	Not explosive	
DENSITY	1.00-1.05 g/mL at 20° C	
WATER SOLUBILITY	Miscible in water	
pH	5 - 7	
VISCOSITY	1000-1600 cP at 12RPM (Dynamic)	
10. STABILITY AND REACTIVITY		
10.1	Reactivity	The product is not reactive during storage
10.2	Chemical stability	Stable under normal storage conditions.
10.3	Possibility of hazardous reactions	Not known
10.4	Conditions to avoid	Extreme heat
10.5	Incompatible materials	Strong acids and alkalis
10.6	Hazardous decomposition products	None under normal conditions. In a fire, formation of carbon oxides can be expected

11. TOXICOLOGICAL INFORMATION – product data		
11.1	Acute oral toxicity, rat	LD ₅₀ > 2,000 mg/kg
11.2	Acute dermal toxicity, rat	LD ₅₀ > 2,000 mg/kg
11.3	Acute inhalation toxicity, rat	LC ₅₀ > 2.73 mg/L (4-h, exposure; max attainable concentration)
11.4	Skin irritation, rabbit	Not irritant
11.5	Eye irritation, rabbit	Not irritant
11.6	Sensitization, guinea pig	Not sensitizer
Data is for SPINOSAD:		
Short term toxicity		
Target / critical effect:		vacuolation in several tissues in various species.
Lowest relevant oral NOAEL / NOEL:		4.89 mg/kg bw/day (50 ppm: 90-d, dogs)
Lowest relevant dermal NOAEL / NOEL:		1000 mg/kg ₃ bw/day (21-day, rabbit)
Lowest relevant inhalation NOAEL / NOEL:		≥ 9.5 mg/m ³
Long term toxicity and carcinogenicity		
Target / critical effect:		vacuolation in several tissues in various species.
Lowest relevant NOAEL:		2.4 mg/kg bw/day (24 m rat)
Carcinogenicity:		no carcinogenic potential
Teratogenicity		
For the active ingredient(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.		
Reproductive toxicity		
For the active ingredient(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.		
Target / critical effect – Reproduction:		decrease in litter size, survival and body weight at parental toxic levels
Lowest relevant reproductive NOAEL / NOEL:		10 mg/kg bw/day (rat) for parental, developmental and reproductive toxicity
Target / critical effect - Developmental toxicity:		no developmental effects at maternal toxic levels.
Lowest relevant developmental NOAEL / NOEL:		maternal toxicity: 10 mg/kg bw/day (rabbit)
		developmental toxicity: > 50 mg/kg bw/day (rabbit)
Mutagenicity		
For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.		
12. ECOLOGICAL INFORMATION (<i>there is no data on the product; data given below is for Spinosad:</i>)		
12.1 Ecotoxicity Effects Fish:		
LC ₅₀ (96 h) common carp (<i>Cyprinus carpio</i>) = 4 mg/l,		
Effects on aquatic invertebrates		
EC ₅₀ Daphnia magna (48 hour) > 1 mg/L		

Effects on algae

E_bC₅₀ (72 hours) *Anabaena flos-aquae* > 1 mg/L

Effects on birds

Acute LD₅₀ mallard duck and bobwhite quail) > 2000 mg/kg

Dietary toxicity to birds: LC₅₀ >5253 mg/kg feed (bobwhite quail)
 LC₅₀ >5156 mg/kg feed (mallard duck)

Effects on bees

LD₅₀ Honeybees (48-hour acute oral) = 0.057 µg ai/bee

LD₅₀ Honeybees (48-hour acute contact) = 0.0036 µg ai/bee

Effects on earthworm

LC₅₀ Earthworm > 458 mg/kg dry soil

12.2 Persistence/degradability:

Soil

Parent molecule is very low persistent

Degradability:

DT_{50lab} in soil (20°C) is 0.12 day

DT_{50field} in soil (12°C) is 0.9 day

Water

Hydrolytic degradation

DT₅₀ (pH 5, 25 °C): stable (spinosyn A & D)

DT₅₀ (pH 7, 25 °C): stable (spinosyn A & D)

DT₅₀ (pH 9, 25 °C): 200 d (spinosyn A); > 259 d (spinosyn D)

Photolytic degradation

spinosyn A

distilled water, pH 7, 25°C: DT₅₀ 0.96 d

pond water, pH 9.2, 25°C: DT₅₀ 0.18 d

spinosyn D

distilled water, pH 7, 25°C: DT₅₀ 0.84 d

pond water, pH 9.2, 25°C: DT₅₀ 0.18 d

Water/sediment

DT₅₀ water

aerobic study, 20°C

spinosyn A 16 – 27 d

spinosyn D 14 - 26 d

average DT_{50, water} value: 21 d

anaerobic study, 25°C

spinosyn A <7 d

spinosyn D <7

DT₅₀ sediment

aerobic study, 20°C: not available.

anaerobic study, 25°C:

spinosyn A 267 d

spinosyn D 539 d

Ready biodegradability: No.

12.3 Bio-accumulative potential: moderate.

12.4 Mobility in soil

Potential for mobility in soil is low (Koc between 500 and 2000).

Low leaching potential

13. DISPOSAL CONSIDERATION

Product would be treated, stored, transported, and disposed of according to the local waste regulation authority. Do not flush to surface water or sanitary sewer system

14. TRANSPORT INFORMATION

UN number: 3082

Transport hazard class(es): 9 Subsidiary Risk: None

Packaging group III

Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SPINOSAD SOLUTION)

15. REGULATORY INFORMATION

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

Ensure all national/local regulations are observed.

15.2 Chemical Safety Assessment

16. OTHER INFORMATION:

The information contained in the Safety data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage, and transportation and is not intended as warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.

Text for phrases appear in section 3:

Hazard (H) statements:

H302: Harmful if swallowed

H304: May be fatal if swallowed and enters airways

H317: May cause an allergic skin reaction

H318: May cause an allergic skin reaction

H319: Causes serious eye irritation

H335: May cause respiratory irritation

H410: Very toxic to aquatic life with long lasting effects

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