

SAFETY PRECAUTIONS

Operator protection:

WHEN USING DO NOT EAT, DRINK OR SMOKE.

Environmental protection:

DO NOT CONTAMINATE WATER with the product or its container.

Do not clean application equipment near surface water.

Avoid contamination via drains from farmyards and roads.

Storage and disposal:

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

WASH OUT CONTAINER THOROUGHLY, empty washings into the spray tank and dispose of safely.

DO NOT RE-USE CONTAINER for any purpose.

This label is compliant with the CPA
Voluntary Initiative Guidance (UK only)



PROTECT FROM FROST

PROFESSIONAL USE ONLY

Triple Rinse Containers, Puncture and Invert to Dry at time of Use

®Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

CONSERVE®

Product Registration Number: MAPP 12058/PCS No. 03728

A suspension concentrate containing 120 g/litre (11.6% w/w) spinosad.

A selective insecticide for use in PROTECTED ORNAMENTAL PLANT PRODUCTION and PROTECTED CROPS OF CUCUMBER, TOMATO, PEPPER and AUBERGINE for the control of WESTERN FLOWER THRIP.

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work (UK only)

1 litre e



Product Identifier according to Art.18 of Reg. (EC) No 1272/2008 [CLP]: Conserve®

WARNING

Very toxic to aquatic life with long lasting effects.

Dispose of contents/container to a licensed waste disposal contractor or collection site except for empty clean triple rinsed containers which can be disposed of as non-hazardous waste
Contains 1,2-benzisothiazolin-3-one. May produce an allergic reaction.

To avoid risks to human health and the environment, comply with the instructions for use

MAPP 12058/PCS No. 03728



IMPORTANT INFORMATION

FOR USE ONLY AS A HORTICULTURAL INSECTICIDE

Crops/Situations: Ornamental plant production (protected), cucumber (protected), tomato (protected), pepper (protected), aubergine (protected)

Maximum Individual Dose: }
Maximum Number of Treatments: } Full details are given in the
Latest Time of Application: } Important Information area on the
Other Specific Restrictions: } attached leaflet

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTIONS PRODUCTS.

Manufactured by:
Dow AgroSciences Limited
Specialty Products
CPC2 Capital Park, Fulbourn,
Cambridge, CB21 5XE
Tel: +44 (0) 1462 457272
Fax: +44 (0) 1462 426605

Marketed and distributed by:
Fargo Limited
Vinery Fields
Arundel Road
Poling
West Sussex
BN18 9PY
Tel: +44 (0) 1903 721591

24-hour Emergency Telephone Number: +44 (0)1553 761 251

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

IMPORTANT INFORMATION

FOR USE ONLY AS A HORTICULTURAL INSECTICIDE

Crop/Situation	Maximum Individual Dose	Maximum Number of Treatments	Latest Time of Application
Ornamental plant production (protected)	75 mL per 100 litres of water	6 per crop (See "Other specific restrictions")	-
Cucumber (protected), tomato (protected), pepper (protected), aubergine (protected)	80 mL per 100 litres of water	3 per crop (See "Other specific restrictions")	3 days before harvest

Other specific restrictions:

For protected ornamental plants apply a maximum of 2 consecutive sprays followed by a minimum 10 week interval before any further applications of CONSERVE (a maximum of 3 blocks of 2 sprays).

For protected cucumber, tomato, pepper and aubergine, apply a maximum of 2 consecutive sprays followed by a minimum 28 day interval before any further applications of CONSERVE.

In protected situations the total number of applications of any spinosad containing product must not exceed 6 per glasshouse/protected structure in a 12 month period, regardless of the crop being treated (including ornamentals).

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

PROTECTED ORNAMENTAL PLANT PRODUCTION

Pest	Control of Western Flower Thrip
Rate	75 mL per 100 litres of water
Water volume	500-1000 litres of water
Maximum number of applications	6 per crop (2 consecutive)
Time of application	Apply when the nymphs or adults are first seen. Monitor carefully pest development to determine whether repeat applications are necessary. A two spray programme at 5 to 7 day intervals should be applied when conditions favour rapid pest development. Apply a maximum of 2 consecutive sprays followed by a minimum 10 week interval before any further applications of CONSERVE (a maximum of 3 blocks of 2 sprays). In protected situations the total number of applications of any spinosad containing product must not exceed 6 per glasshouse/protected structure in a 12 month period, regardless of the crop being treated (including ornamentals).
Latest time of application	No latest time of application
Crop safety	CONSERVE has been tested on a wide range of ornamentals grown as pot plants and cut flowers. CONSERVE has good plant safety when applied at different growth stages. In view of the large number of species and cultivars grown it is recommended to test CONSERVE on a small number of plants to confirm plant safety before spraying the crop. Some spotting of <i>Saintpaulia</i> (African Violet) flowers may occur.
Notes	Some plants, e.g. Fuchsia flowers, can provide effective refuges from spray deposits of CONSERVE and control may be reduced.

PROTECTED CUCUMBER, TOMATO, PEPPER AND AUBERGINE

Pest	Control of Western flower thrip
Rate	80 mL per 100 litres of water (maximum of 800 mL/ha)
Water volume	600-1000 litres of water
Maximum number of applications	3 per crop (2 consecutive)
Time of application	Apply when the nymphs or adults are first seen. Monitor carefully pest development to determine whether repeat applications are necessary. A 2 spray programme at 7 day intervals should be applied when conditions favour rapid pest development. Apply a maximum of 2 consecutive sprays followed by a minimum 28 day interval before any further applications of CONSERVE. In protected situations the total number of applications of any spinosad containing product must not exceed 6 per glasshouse/protected structure in a 12 month period, regardless of the crop being treated (including ornamentals). If the final insecticide chemical application to a crop was spinosad, choose a different insecticide active ingredient to begin spraying on the next crop. Do not apply later than 3 days before harvest.
Latest time of application	3 days before harvest
Crop safety	It is recommended to test CONSERVE on a small number of plants to confirm the crop safety before spraying a large area.
Notes	Consult processors before use.

RESISTANCE

GENERAL

To reduce the possibility of the development of resistance:

- Total reliance on one pesticide will hasten the development of resistance: Spinosad has a different mode of action from other insecticides and is most effective when applied in planned programmes with other insecticides with different modes of action.
- Avoid use of the same active ingredient or mode of action on consecutive generations of insects. However, multiple applications to reduce a single generation are acceptable. If uncertain of the generation cycle, no more than two consecutive applications should be used, or should there be continuous use for more than 30 days.

Do not use CONSERVE on consecutive generations for insects which show a high risk of resistance such as Western flower thrip.

- Do not use reduced label rates when applied alone or in tank mixtures.

PROTECTED CROPS

- Western flower thrips have shown resistance to certain chemical groups and resistance management steps should be taken as it is considered a high resistance risk pest in protected crops/plants.
- Before undertaking a spray programme with CONSERVE establish whether incoming plant material has previously been treated with CONSERVE or another spinosad containing product.
- Carry out careful monitoring and apply when the Western flower thrip is first seen making repeat applications at 5-7 day intervals for protected ornamentals with a maximum of 2 consecutive sprays, and 7 day intervals for protected cucumbers, tomato, pepper and aubergine only if needed, with a maximum of 2 consecutive sprays.
- For protected ornamental plants apply a maximum of 2 consecutive sprays followed by a minimum 10 weeks interval before any further applications of CONSERVE (a maximum of 3 blocks of 2 sprays).
- For protected cucumber, tomato, pepper and aubergine, apply a maximum of 2 consecutive sprays followed by a minimum 28 day interval before any further applications of CONSERVE.
- In protected situations the total number of applications of **any** spinosad containing product must not exceed 6 per glasshouse/protected structure in a 12-month period regardless of the crop being treated.
- The maximum of 6 applications per structure in a 12 month period applies even if only part of the structure is treated at each application, such as with all year round (AYR) chrysanthemums.
- Apply in programmes with other insecticides with a different mode of action and use no further sprays of CONSERVE. (or any other spinosad containing products) once the maximum number of sprays have been applied.
- If the final insecticide application to a crop was spinosad, choose a different insecticide active ingredient to begin spraying on the next crop.
- Applications should be targeted against early insect developmental stages whenever possible.
- Do not use reduced label rates.
- Whenever possible use an Integrated Pest Management programme.
- Choose resistant cultivars.

INTEGRATED PEST MANAGEMENT

Whenever possible use an Integrated Pest Management programme.

BEES

Do not apply in the heat of the day when bees may be foraging as contact with direct spray may be harmful. Remove the hive during spraying as exposure to direct spray may be harmful to bees. Dow AgroSciences take the most restrictive approach and recommend that a period of 24 hours after application and all spray deposits are thoroughly dry before exposure of bees. Water pools with residues of spinosad will continue to pose a risk and should be avoided.

PROTECTED CROPS

As part of an Integrated Pest Management Programme.

- Inspect all incoming plant material for presence of Western flower thrip and treat if necessary.
- Monitor ornamental stock routinely to determine need for control measures.
- Use screens or barriers to prevent insects migrating.
- Use predators and parasites.
- Carefully choose any chemical products used in the pesticide programme and consider any side effects on bees and beneficial arthropods.

CONSERVE has been tested on a wide range of predators and parasites used to control pests in protected ornamentals. The active ingredient, spinosad has been shown to be of low impact to many insect and mite predators but harmful to adults of most parasitic wasps (*Hymenoptera*).

Exposure to direct spray is harmful to bumble bees, but dry spray deposits are harmless.

When applied to plants where insect and mite predators are present CONSERVE may cause a temporary reduction in abundance.

For susceptible predators (parasitic hymenoptera) re-introduction is possible after 7 days following application (with perhaps 14 days in winter months). For most other predators introduction is possible 24 hours after application. Re-introduction of *Orius laevigatus* is advised one week later.

CONSERVE, when used according to good agricultural practice is unlikely to pose an unacceptable risk to honeybees and beneficial arthropods.

Beneficials may be safely introduced to treated plants after an application of CONSERVE according to the following table:

CONSERVE Recommendations for Integrated Use with Predators and Parasites			
Beneficial Type	Species	*IOBC Toxicity Class Rating	Introduction Best Practices
Predatory mites	<i>Phytoseiulus persimilis</i>	Harmless (1)	Data suggest predatory mites introduced when spray deposits are dry may be affected but will recover after 24 hours.
	<i>Amblyseius californicus</i>	Harmless (1)	
	<i>Amblyseius cucumeris</i>	Harmless (1)	
Predatory insects	<i>Chrysoperla carnea</i>	Harmless (1)	Data suggest predatory insects introduced when spray deposits are dry may be affected but will recover after 24 hours. <i>Orius laevigatus</i> is best introduced after 7 days. <i>M.caliginosus</i> may be introduced on the day of application once spray deposits are dry. If CONSERVE is applied directly to plants containing <i>M.caliginosus</i> there may be a short-term reduction in numbers.
	<i>Orius laevigatus</i>	Slightly Harmful (2)	
	<i>Aphidoletes aphidimyza</i>	Harmless (1)	
	<i>Macrolophus caliginosus</i>	Harmless (1)	
Parasitic wasps	<i>Aphidius colemani</i>	Harmful (4)	Direct applications of CONSERVE are harmful to parasitic wasps. Wait two weeks after an application of CONSERVE before introducing new parasites.
	<i>Encarsia formosa</i>	Moderately Harmful (3)	
	<i>Trichogramma brassicae</i>	Moderately Harmful (3)	
	<i>Diglyphus isaea</i>	Harmful (4)	

~Toxicity ratings:

Class 1	Harmless less than 25% reduction
Class 2	Slightly harmful 25–50% reduction
Class 3	Moderately harmful 50–75% reduction
Class 4	Harmful more than 75% reduction

For further information and the latest advice on beneficial insects and mites and their integrated use with CONSERVE consult Fargro Ltd.

MIXING

To ensure thorough mixing of the product invert the container several times before opening. Fill the spray tank with water, begin agitation and add the required quantity of CONSERVE. Fill up the spray tank, agitating continuously to ensure thorough mixing, and maintain agitation until spraying is complete. Use only clean water for mixing.

For knapsack sprayers, half fill the spray tank with water and add the required quantity of CONSERVE. Fill up the spray tank agitating continuously to ensure thorough mixing. Use the spray solution immediately after preparation.

SPRAY VOLUME

Apply in a high volume spray to ensure thorough coverage of leaves, stems and buds to the point of run off.

Water volume should reflect the need for uniform cover and penetration of the leaf canopy.

Crop	Water Volume	Comment
Protected ornamental plant production	Minimum: 500 litres/ha Maximum: 1000 litres/ha	Apply in a high volume spray to ensure thorough coverage of leaves, stems, buds and flowers to the point of run off.
Protected cucumber, tomato, pepper, aubergine	Minimum: 600 litres/ha Maximum: 1000 litres/ha	Apply in a high volume spray to ensure thorough coverage of leaves, stems, buds, flowers and fruits to the point of run off.

APPLICATION EQUIPMENT

Apply CONSERVE using either a hydraulic nozzle motorised sprayer or knapsack sprayer. Ensure the equipment is in good working order and has been calibrated according to the manufacturers' recommendations.

NOTES

Wash spray tank and equipment (including knapsack sprayers) thoroughly with water and a liquid detergent immediately after use. Spray out. Fill with clean water and leave overnight. Spray out again before using another product.

MODE OF ACTION

CONSERVE insecticide enters the insect primarily through contact and ingestion. Contact occurs by direct application or by insect movement on a treated surface. Ingestion occurs from feeding on treated surfaces. Following entry, CONSERVE acts on the nicotinic and GABA receptor sites of the insect.

Dow AgroSciences Conditions of Supply

All goods supplied by us are of high grade and we believe them to be suitable but, as we cannot exercise control over their storage, handling, mixing or use, or the weather conditions before, during or after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded. No responsibility will be accepted by us or re-sellers for any failure in performance, damage or injury whatsoever arising from their storage, handling, application or use. These conditions cannot be varied by our staff or agents whether or not they supervise or assist in the use of such goods.

Safety Data Sheet

This Safety Data Sheet does not form part of the approved product label.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name: CONSERVE® Insect Control

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

Identified uses: Biocidal product Plant Protection Product

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

DOW AGROSCIENCES LIMITED
LATCHMORE COURT
BRAND STREET
HITCHIN
England
SG5 1NH
UNITED KINGDOM

Customer Information Number:

SDSQuestion@dow.com

1.4 EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 0031 115 694 982

Local Emergency Contact: 00 31 115 69 4982

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 1272/2008 :

Acute aquatic toxicity - Category 1 - H400

Chronic aquatic toxicity - Category 1 - H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC:

Dangerous for the environment - R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]:

Hazard pictograms

Signal word: WARNING
Hazard statements

H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Supplemental information

Contains 1,2-benzisothiazol-3(2H)-one May produce an allergic reaction.

2.3 Other hazards

no data available

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS
3.2 Mixture

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 168316-95-8 EC-No. 434-300-1 Index-No. 603-209-00-0	-	11.6%	spinosad (ISO)	Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 57-55-6 EC-No. 200-338-0 Index-No. -	01- 2119456809- 23	< 5.0 %	Propylene glycol	Not classified
CASRN 2634-33-5 EC-No. 220-120-9 Index-No. 613-088-00-6	-	< 0.05 %	1,2-benzisothiazol-3(2H)-one	Acute Tox. - 4 - H302 Skin Irrit. - 2 - H315 Eye Dam. - 1 - H318 Skin Sens. - 1 - H317 Aquatic Acute - 1 - H400 Aquatic Chronic - 3 - H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

CASRN / EC-No. / Index-No.	Concentration	Component	Classification: 67/548/EEC
CASRN 168316-95-8 EC-No. 434-300-1 Index-No. 603-209-00-0	11.6%	spinosad (ISO)	N - R50 - R53
CASRN 57-55-6 EC-No. 200-338-0 Index-No. -	< 5.0 %	Propylene glycol	Not classified
CASRN 2634-33-5 EC-No. 220-120-9 Index-No. 613-088-00-6	< 0.05 %	1,2-benzisothiazol- 3(2H)-one	Xn - R22 Xi - R38 - R41 R43 N - R50

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control centre or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

Eye contact: Hold eyes 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 eyes. Call a poison control centre or doctor for treatment advice.

Ingestion: No emergency medical treatment necessary.

4.2 Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control centre or doctor, or going for treatment.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

Unsuitable extinguishing media: no data available

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: This material will not burn until the water has evaporated. Residue can burn. If exposed to fire from another source and water is evaporated, exposure to high temperatures may cause toxic fumes.

5.3 Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

6.3 Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay, Dirt, Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

6.4 Reference to other sections: References to other sections, if applicable, have been provided in the previous sub-sections.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapour or mist. Wash thoroughly after handling. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

7.2 Conditions for safe storage, including any incompatibilities: Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

7.3 Specific end use(s): Refer to product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
spinosad (ISO)	Dow IHG	TWA	0.3 mg/m ³
Propylene glycol	US WEEL	TWA	10 mg/m ³
	GB EH40	TWA	474 mg/m ³ 150 ppm
	GB EH40	TWA	10 mg/m ³

8.2 Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex").

Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

Use the following CE approved air-purifying respirator: Organic vapour cartridge with a particulate pre-filter, type AP2.

Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Colour	Off-white
Odour	Sharp
Odour Threshold	No test data available
pH	8.2 100% CIPAC MT 75.1 (neat)
Melting point/range	Not applicable
Freezing point	No test data available
Boiling point (760 mmHg)	100 °C (water)
Flash point	closed cup No test data available
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapour Pressure	No test data available
Relative Vapour Density (air = 1)	No test data available
Relative Density (water = 1)	1.034 <i>Digital Density Meter (Oscillating Coil)</i>
Water solubility	Dispersible
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	> 400 °C <i>EC Method A15</i>
Decomposition temperature	No test data available

Dynamic Viscosity	85.7 cP at 24.3 °C
Kinematic Viscosity	No test data available
Explosive properties	No <i>EEC A14</i>
Oxidizing properties	No

9.2 Other information

Liquid Density	1.04 g/cm ³ at 20 °C <i>Digital density meter</i>
Molecular weight	No test data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity: no data available

10.2 Chemical stability: Thermally stable at recommended temperatures and pressures.

10.3 Possibility of hazardous reactions: Polymerization will not occur.

10.4 Conditions to avoid: Active ingredient decomposes at elevated temperatures.

10.5 Incompatible materials: None known.

10.6 Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Nitrogen oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product:

LD50, rat, male and female, > 5,000 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:

LD50, rabbit, > 5,000 mg/kg

Acute inhalation toxicity

No adverse effects are anticipated from single exposure to mist. Based on the available data, narcotic effects were not observed.

As product:

LC50, rat, male and female, 4 Hour, dust/mist, > 17.02 mg/l

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

May cause pain disproportionate to the level of irritation to eye tissues.

May cause slight temporary eye irritation.

Corneal injury is unlikely.

Sensitization

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant information found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For the active ingredient(s):

In animals, Spinosad has been shown to cause vacuolization of cells in various tissues.

Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

For the minor component(s):

In animals, effects have been reported on the following organs after exposure to aerosols:

Lung.

Carcinogenicity

For the active ingredient(s): Did not cause cancer in laboratory animals.

Teratogenicity

For the active ingredient(s): Did not cause birth defects or other effects in the foetus 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.

Mutagenicity

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

12.1 Toxicity**spinosad (ISO)****Acute toxicity to fish**

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

LC50, *Cyprinus carpio* (Carp), 96 Hour, 4 g/L, OECD Test Guideline 203 or Equivalent

LC50, Rainbow trout (*Oncorhynchus mykiss*), 96 Hour, 27 mg/l

LC50, *Lepomis macrochirus* (Bluegill sunfish), 96 Hour, 5.9 mg/l

Acute toxicity to aquatic invertebrates

EC50, *Daphnia magna* (Water flea), 48 Hour, > 1 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EbC50, diatom *Navicula* sp., 5 d, Biomass, 0.107 mg/l

EbC50, *Pseudokirchneriella subcapitata* (green algae), 7 d, 39 mg/l

EC50, *Lemna gibba*, 14 d, 10.6 mg/l

EC50, blue-green alga *Anabaena flos-aquae*, 120 Hour, 6.1 mg/l

Toxicity to bacteria

Bacteria, > 100 mg/l

Chronic toxicity to fish

NOEC, *Oncorhynchus mykiss* (rainbow trout), flow-through test, mortality, 0.5 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, *Daphnia magna* (Water flea), 0.0012 mg/l

Toxicity to Above Ground Organisms

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

oral LD50, *Colinus virginianus* (Bobwhite quail), > 2000mg/kg bodyweight.

dietary LC50, *Colinus virginianus* (Bobwhite quail), 5 d, > 5253mg/kg diet.

oral LD50, *Apis mellifera* (bees), 48 Hour, 0.06micrograms/bee

contact LD50, *Apis mellifera* (bees), 48 Hour, 0.05micrograms/bee

Toxicity to soil-dwelling organisms

LC50, *Eisenia fetida* (earthworms), 14 d, > 970 mg/kg

Propylene glycol**Acute toxicity to fish**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, *Oncorhynchus mykiss* (rainbow trout), static test, 96 Hour, 40,613 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

LC50, *Ceriodaphnia Dubia* (water flea), static test, 48 Hour, 18,340 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

ErC50, *Pseudokirchneriella subcapitata* (green algae), 96 Hour, Growth rate inhibition, 19,000 mg/l, OECD Test Guideline 201

Toxicity to bacteria

NOEC, *Pseudomonas putida*, 18 Hour, > 20,000 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, *Ceriodaphnia Dubia* (water flea), semi-static test, 7 d, number of offspring, 13,020 mg/l

1,2-benzisothiazol-3(2H)-one**Acute toxicity to fish**

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

LC50, *Oncorhynchus mykiss* (rainbow trout), flow-through test, 96 Hour, 1.9 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, *Daphnia magna* (Water flea), flow-through test, 48 Hour, 3.7 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, 0.8 mg/l, OECD Test Guideline 201 or Equivalent
NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, 0.21 mg/l, OECD Test Guideline 201 or Equivalent

ErC50, diatom Skeletonema costatum, static test, 72 Hour, 0.36 mg/l, OECD Test Guideline 201 or Equivalent
NOEC, diatom Skeletonema costatum, static test, 72 Hour, Growth rate, 0.15 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50, Bacteria (active sludge), Respiration inhibition of activated sludge, 3 Hour, 28.52 mg/l

12.2 Persistence and degradability

spinosad (ISO)

Biodegradability: Surface photodegradation is expected with exposure to sunlight. Material is not readily biodegradable according to OECD/EEC guidelines.

10-day Window: Fail

Biodegradation: < 1 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

Stability in Water (1/2-life)

Hydrolysis, pH 5, Half-life Temperature 25 °C, Stable

Hydrolysis, pH 7, Half-life Temperature 25 °C, Stable

Hydrolysis, half-life, 0.84 - 0.96 d, pH 7, Half-life Temperature

Hydrolysis, half-life, 200 - 259 d, pH 9, Half-life Temperature 25 °C

Propylene glycol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

10-day Window: Pass

Biodegradation: 81 %

Exposure time: 28 d

Method: OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

Biodegradation: 96 %

Exposure time: 64 d

Method: OECD Test Guideline 306 or Equivalent

1,2-benzisothiazol-3(2H)-one

Biodegradability: Abiotic degradation: The material is rapidly degradable by abiotic means.

Biodegradation: 24 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

12.3 Bioaccumulative potential

spinosad (ISO)

Bioaccumulation: For similar active ingredient(s). Spinosyn A. Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 4.01

Bioconcentration factor (BCF): 114 Oncorhynchus mykiss (rainbow trout)

Propylene glycol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -1.07 Measured

Bioconcentration factor (BCF): 0.09 Estimated.

1,2-benzisothiazol-3(2H)-one

Partition coefficient: n-octanol/water(log Pow): 0.64 Estimated.

Bioconcentration factor (BCF): 3.2 Fish. Estimated.

12.4 Mobility in soil

spinosad (ISO)

For similar material(s):

Spinosyn A.

Expected to be relatively immobile in soil (Koc > 5000).

Partition coefficient(Koc): 35024

Propylene glycol

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient(Koc): < 1 Estimated.

1,2-benzisothiazol-3(2H)-one

Potential for mobility in soil is high (Koc between 50 and 150).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient(Koc): 104 Estimated.

12.5 Results of PBT and vPvB assessment

spinosad (ISO)

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Propylene glycol

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

1,2-benzisothiazol-3(2H)-one

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

12.6 Other adverse effects

spinosad (ISO)

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Propylene glycol

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

1,2-benzisothiazol-3(2H)-one

No specific, relevant data available for assessment.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

SECTION 14. TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

14.1	UN number	UN 3082
14.2	Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(spinosad)
14.3	Class	9
14.4	Packing group	III
14.5	Environmental hazards	spinosad
14.6	Special precautions for user	

Hazard identification No: 90

Classification for SEA transport (IMO-IMDG):

14.1	UN number	UN 3082
14.2	Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(spinosad)
14.3	Class	9
14.4	Packing group	III
14.5	Environmental hazards	spinosad
14.6	Special precautions for user	EmS: F-A, S-F
14.7	Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

14.1	UN number	UN 3082
14.2	Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(spinosad)
14.3	Class	9

14.4	Packing group	III
14.5	Environmental hazards	Not applicable
14.6	Special precautions for user	No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15. REGULATORY INFORMATION

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

Other regulations

Registration Number: MAPP 12058

This product contains only components that have been either pre-registered, registered, are exempt from registration or are regarded as registered according to Regulation (EC) No. 1907/2006 (REACH).

The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

15.2 Chemical Safety Assessment

For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of R-phrases referred to under sections 2 and 3

R22	Harmful if swallowed.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R50	Very toxic to aquatic organisms.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R53 May cause long-term adverse effects in the aquatic environment.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Aquatic Acute - 1 - H400 - Calculation method

Aquatic Chronic - 1 - H410 - Calculation method

Revision

Identification Number: 101201529 / A293 / Issue Date: 27.08.2014 / Version: 5.0

DAS Code: NAF-313

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

Dow IHG	Dow Industrial Hygiene Guideline
GB EH40	UK. EH40 WEL - Workplace Exposure Limits
TWA	Long-term exposure limit (8-hour TWA reference period)
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LIMITED urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

**THIS PAGE HAS BEEN LEFT
BLANK INTENTIONALLY**

SPECIMEN

**THIS PAGE HAS BEEN LEFT
BLANK INTENTIONALLY**

SPECIMEN

**THIS PAGE HAS BEEN LEFT
BLANK INTENTIONALLY**

SPECIMEN

SAFETY PRECAUTIONS

Operator protection:

WHEN USING DO NOT EAT, DRINK OR SMOKE.

Environmental protection:

DO NOT CONTAMINATE WATER with the product or its container.

Do not clean application equipment near surface water.

Avoid contamination via drains from farmyards and roads.

Storage and disposal:

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

WASH OUT CONTAINER THOROUGHLY, empty washings into the spray tank and dispose of safely.

DO NOT RE-USE CONTAINER for any purpose.

This label is compliant with the CPA
Voluntary Initiative Guidance (UK only)



PROTECT FROM FROST

PROFESSIONAL USE ONLY

Triple Rinse Containers, Puncture and Invert to Dry at time of Use

©Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

CONSERVE®

Product Registration Number: MAPP 12058/PCS No. 03728
A suspension concentrate containing 120 g/litre (11.6% w/w) spinosad.

A selective insecticide for use in PROTECTED ORNAMENTAL PLANT PRODUCTION and PROTECTED CROPS OF CUCUMBER, TOMATO, PEPPER and AUBERGINE for the control of WESTERN FLOWER THRIP.

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work (UK only)

1 litre e



Product Identifier according to Art. 18 of Reg. (EC)
No 1272/2008 [CLP]: Conserve®

WARNING

Very toxic to aquatic life with long lasting effects.
Dispose of contents/container to a licensed waste disposal contractor or collection site except for empty clean triple rinsed containers which can be disposed of as non-hazardous waste
Contains 1,2-benzisothiazolin-3-one. May produce an allergic reaction.

To avoid risks to human health and the environment, comply with the instructions for use

MAPP 12058/PCS No. 03728



IMPORTANT INFORMATION

FOR USE ONLY AS A HORTICULTURAL INSECTICIDE

Crops/Situations:	Ornamental plant production (protected), cucumber (protected), tomato (protected), pepper (protected), aubergine (protected)
Maximum Individual Dose:	}
Maximum Number of Treatments:	} Full details are given in the
Latest Time of Application:	} Important Information area on the
Other Specific Restrictions:	} attached leaflet

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTIONS PRODUCTS.

Manufactured by:
Dow AgroSciences Limited
Specialty Products
CPC2 Capital Park, Fulbourn,
Cambridge, CB21 5XE
Tel: +44 (0) 1462 457272
Fax: +44 (0) 1462 426605

Marketed and distributed by:
Fargo Limited
Vinery Fields
Arundel Road
Poling
West Sussex
BN18 9PY
Tel: +44 (0) 1903 721591

24-hour Emergency Telephone Number: +44 (0)1553 761 251