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## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Biosperse™ 535C MICROBIOCIDE  
™ Trademark, Solenis or its subsidiaries or affiliates, registered  
in various countries

Product code : 940148  
Company : Solenis  
New Zealand

119 Carbine Rd,  
PO Box 132-347 Sylvia Park Auckland 1644

E-mail address : EHSProductSafetyTeam@solenis.com

Telephone : Contact your local Solenis representative

Emergency telephone number : 0800 243 622

Use of the Substance/Mixture : Industrial chemical

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Acute toxicity (Oral) : 6.1D

Acute toxicity (Inhalation) : 6.1D

Serious eye damage : 8.3A

Skin sensitisation : 6.5B

Toxic to Reproduction : 6.8B

Aquatic toxicity (Acute or Chronic) : 9.1A


### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H302 Harmful if swallowed.  
H317 May cause an allergic skin reaction.

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H318 Causes serious eye damage.  
 H332 Harmful if inhaled.  
 H361 Suspected of damaging fertility or the unborn child.  
 H400 Very toxic to aquatic life.

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 dust/ fume/ gas/ mist/ vapours/ spray.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.  
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
 P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER or doctor/ physician.  
 P321 Specific treatment (see supplemental first aid instructions on this label).  
 P330 Rinse mouth.  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
 P363 Wash contaminated clothing before reuse.  
 P391 Collect spillage.

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards which do not result in classification**


None known.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

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Chemical name	CAS-No.	Concentration (% w/w)
PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT)	55566-30-8	>= 30 -< 50

#### SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : Move to fresh air.  
IF INHALED: Call a POISON CENTER/ doctor if you feel unwell.  
Keep patient warm and at rest.  
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.  
If on skin, rinse well with water.  
First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.  
Wash contaminated clothing before re-use.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.
- If swallowed : Obtain medical attention.  
Do NOT induce vomiting.  
Rinse mouth with water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : No symptoms known or expected.  
Harmful if swallowed or if inhaled.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
Suspected of damaging fertility or the unborn child.
- Notes to physician : No hazards which require special first aid measures.

#### SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Water spray

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- Foam  
Carbon dioxide (CO2)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon monoxide  
Carbon dioxide (CO2)  
phosphine  
Oxides of phosphorus  
Sulphur oxides
- Specific extinguishing methods : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
  
Product is compatible with standard fire-fighting agents.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.  
Comply with all applicable federal, state, and local regulations.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

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## SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Do not breathe vapours/dust.  
Do not smoke.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Container hazardous when empty.

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Avoid exposure - obtain special instructions before use.  
 Avoid contact with skin and eyes.  
 Smoking, eating and drinking should be prohibited in the application area.  
 For personal protection see section 8.  
 Dispose of rinse water in accordance with local and national regulations.

- Hygiene measures : Wash hands before breaks and at the end of workday.  
 When using do not eat or drink.  
 When using do not smoke.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
 Observe label precautions.  
 Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : No decomposition if stored and applied as directed.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

- Engineering measures** : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

### Personal protective equipment

Hand protection


- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

- Eye protection : Safety glasses

- Skin and body protection : Wear as appropriate:  
 Impervious clothing  
 Safety shoes  
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
 Discard gloves that show tears, pinholes, or signs of wear.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance : liquid

Odour : No data available

Odour Threshold : No data available

pH : 4,2

Melting point/freezing point : No data available

Boiling point/boiling range : No data available

Flash point : Not applicable

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Self-ignition : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : 1,1682 g/cm<sup>3</sup> (20 °C)

Solubility(ies)

Water solubility : miscible

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Decomposition temperature : No data available

Viscosity


Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Oxidizing properties : No data available

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## SECTION 10. STABILITY AND REACTIVITY

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- Reactivity : No decomposition if stored and applied as directed.
- Chemical stability : Stable under recommended storage conditions.
- Possibility of hazardous reactions : Product will not undergo hazardous polymerization.
- Conditions to avoid : Heat  
Exposure to sunlight.
- Incompatible materials : Strong acids  
Strong bases  
Strong oxidizing agents  
strong reducing agents  
This product should not be used in conjunction with trimethylol propane or trimethylol propane-derived products. There is a possibility that bicyclic phosphates or phosphites can be produced as a result of the thermal decomposition of this product in combination with trimethylol propane, trimethylol propane-derived products or their corresponding trimethylol propane alkane homologs. Bicyclic phosphates and phosphites are a class of materials with acute neurotoxic properties which produce characteristic convulsive seizures in test animals.
- Hazardous decomposition products : Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)  
Phosphorus trihydride (phosphine)  
Oxides of phosphorus  
Sulphur oxides

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

Harmful if swallowed or if inhaled.

### Components:

#### **PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT):**

Acute oral toxicity : LD 50 (Rat): 575 mg/kg


Acute inhalation toxicity : LC 50 (Rat): 5,5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

LC 50 (Rat): 0,59 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Remarks: Information given is based on data obtained from similar substances.

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**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Remarks : May cause skin irritation in susceptible persons.

**Components:**

**PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT):**

Species : Rabbit  
 Method : OECD Test Guideline 404  
 Result : Not irritating to skin

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Product:**

Remarks : May cause irreversible eye damage.

**Components:**

**PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT):**

Species : Rabbit  
 Result : Risk of serious damage to eyes.

**Respiratory or skin sensitisation**

**Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.

**Product:**

Remarks : May cause allergic skin reaction.

**Components:**

**PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT):**

Test Type : Maximisation Test  
 Method : OECD Test Guideline 406

**Chronic toxicity**

**Germ cell mutagenicity**


Not classified based on available information.

**Components:**

**PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT):**

Germ cell mutagenicity - : In vitro tests did not show mutagenic effects



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Assessment

**Carcinogenicity**

Not classified based on available information.

**Components:**

**PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT):**

Carcinogenicity - : No evidence of carcinogenicity in animal studies.  
 Assessment

**Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

**Components:**

**PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT):**

Reproductive toxicity - : Some evidence of adverse effects on development, based on  
 Assessment animal experiments.

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**Further information**

**Product:**

Remarks : No data available

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**


**Components:**

**PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT):**

Toxicity to fish : LC 50 (Oncorhynchus mykiss (rainbow trout)): 119 mg/l  
 Exposure time: 96 h  
 Test substance: 75% solution

LC 50 (Lepomis macrochirus (Bluegill sunfish)): 93 mg/l  
 Exposure time: 96 h  
 Test substance: 75% solution

Toxicity to daphnia and other : EC 50 (Water flea (Daphnia magna)): 19,4 mg/l  
 aquatic invertebrates Exposure time: 48 h  
 Test substance: 75% solution

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Toxicity to algae/aquatic plants : EC 50 (Pseudokirchneriella subcapitata (green algae)): 0,20 mg/l  
 Exposure time: 96 h  
 Test substance: 75% solution

Toxicity to microorganisms : EC 50 (activated sludge): 24 mg/l  
 Exposure time: 3 h  
 Test substance: 75% solution

#### **Persistence and degradability**

##### **Components:**

##### **PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT):**

Biodegradability : Result: Readily biodegradable.

##### **Bioaccumulative potential**

No data available

##### **Mobility in soil**

No data available

##### **Other adverse effects**

##### **Product:**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

### **SECTION 13. DISPOSAL CONSIDERATIONS**

#### **Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
 Do not contaminate ponds, waterways or ditches with chemical or used container.  
 Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
 Dispose of as unused product.  
 Empty containers should be taken to an approved waste handling site for recycling or disposal.  
 Do not re-use empty containers.

### **SECTION 14. TRANSPORT INFORMATION**

#### **International transport regulations**

#### **REGULATION**

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ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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**IATA-DGR**

UN	3082	Environmentally hazardous substance, liquid, n.o.s.	9	III	
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**IMDG-Code**

UN	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	9	III	MARINE POLLUTANT:( TETRAKIS[HYDROXYMETHYL]PHOSPHONIUM SULFATE)
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**\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

**SECTION 15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****HSNO Approval Number**

HSR002684

**HSW Controls**


Certified handler certificate not required.

HSW tracking not required.

Refer to WORKSAFE user guide to the HSW regulations for further information.

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

DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

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TCSI : On the inventory, or in compliance with the inventory

TSCA : On TSCA Inventory

NZIOC : On the inventory, or in compliance with the inventory

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## SECTION 16. OTHER INFORMATION

### Further information

Date format : dd.mm.yyyy

### Full text of other abbreviations


AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Sources of key data used to compile the Safety Data Sheet

Key literature references and sources of data

SOLENIS Internal data

SOLENIS internal data including own and sponsored test reports

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The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This SDS has been prepared by the Solenis Environmental Health and Safety Department.

NZ / EN