

**Safety Data Sheet****Funginex® DC Fungicide**

Version : 3.6 E

Date / Revised : Nov 16, 2013

Conforming generally to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Fourth Revised Edition

**1. Substance/Preparation and Company Identification**

Product name: Funginex® DC Fungicide  
 Formulation code: SCTRF-09FC  
 Manufactured/supplied: Sumitomo Corporation  
 Address: 8-11 Harumi 1-chome, Chuo-ku, Tokyo 104-8610 Japan  
 Harumi Triton Square Office Tower Y  
 Department in charge: AgriScience Department, Product Promotion Team  
 For More Information Call: +81-3-6221-3205 / Fax +81-3-6221-3035

**24 hours emergency contact number:** **In case of emergency involving a poisoning or major spill call 1-866-336-2983**

Recommended Use and Limitation of Use: Fungicide for agricultural and horticultural uses

**2. Hazards Identification****Emergency Overview:****WARNING:**

- Flammable.
- Harmful by inhalation.
- Irritating to eyes and skin.
- Harmful to aquatic organisms.
- Use with local exhaust ventilation.
- Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator
- Wear NIOSH-certified chemical goggles.
- Wear chemical resistant protective gloves.
- Wear protective clothing.
- Eye wash fountains and safety showers must be easily accessible.

**GHS Classification:****Category**

Flammable liquids	3
Pyrophoric liquids	not classified
Acute toxicity – oral	not classified
Acute toxicity – dermal	not classified
Acute toxicity – inhalation - vapour	4
Acute toxicity – inhalation – mist	4
Skin corrosion/irritation	2
Serious eye damage/irritation	2A
Skin sensitization	not classified
Germ cell mutagenicity	2
Carcinogenicity	2
Reproductive toxicity	2
Specific target organ toxicity (single exposure)	1 (liver, spleen, CNS)
Specific target organ toxicity (single exposure)	2 (respiratory system)
Specific target organ toxicity (single exposure)	3 (narcotic effect)

**Safety Data Sheet****Funginex® DC Fungicide**

Version : 3.6 E

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Specific target organ toxicity (repeated exposure)	1 (kidney, liver, CNS)
Specific target organ toxicity (repeated exposure)	1 (inhalation: bone marrow, spleen, liver, respiratory tract, adrenal, kidney)
Hazardous to aquatic environment	3(acute)

**GHS label elements:**

Symbols



Signal word

Danger

Hazard statement

- Flammable liquid and vapour
- Harmful if inhaled
- Causes skin irritation
- Causes serious eye irritation
- Suspected of causing genetic defects
- Suspected of causing cancer
- Suspected of damaging fertility or the unborn child
- Causes damage to liver, spleen, central nerve system
- May cause damage to respiratory system
- May cause drowsiness and dizziness
- Causes damage to kidney, liver, central nerve system through prolonged or repeated exposure
- Causes damage to bone marrow, spleen, liver, respiratory tract, adrenal gland, kidney through prolonged or repeated exposure by inhalation
- Harmful to aquatic life

**Precaution statements**

Prevention measures

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat, sparks, open flames and hot surfaces. No smoking.
- Use explosion-proof electrical, ventilating and lighting equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Ground or bond container and receiving equipment.
- Keep cool.
- Keep container tightly closed.
- Use only outdoors or in a well-ventilated area.
- Do not breathe mist, vapours and spray.
- Wear protective gloves, eye protection and face protection.
- Use personal protective equipment as required.
- Wash hand thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Avoid release to the environment.

Response precaution

**IF INHALED:** Remove to fresh air and keep at rest in a position comfortable for breathing.

**IF ON SKIN or hair:** Remove or take off immediately all contaminated clothing. Rinse skin with water or shower.

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**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

- If skin irritation occurs: Get medical advice and attention.
- If eye irritation persists: Get medical advice and attention.
- IF exposed or concerned: Get medical advice and attention.
- Get medical advice and attention if you feel unwell.

**Storage precaution**

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

**Disposal precaution**

Dispose of contents and container in accordance with local, regional and national regulations (to be specified).

**3. Composition / Information on Ingredient**

Identification of Substance or Mixture

Mixture

Generic name

Triforine Emulsifiable Concentrate, a fungicide

Chemical Name/Generic Name	Content (w/w)	Chemical Formula	Japanese Gazettes Notice Number		CAS Number
			JCSCL	ISHA	
Triforine	17.0 – 18.6 %	C <sub>10</sub> H <sub>14</sub> Cl <sub>6</sub> N <sub>4</sub> O <sub>2</sub>	Not applicable	8-(2)-510	26644-46-2
Isopropyl alcohol	ca. 0.95%	(CH <sub>3</sub> ) <sub>2</sub> CHOH	(2)-207	2-(8)-319	67-63-0
Cyclohexanone	20.1 – 21.3 %	C <sub>6</sub> H <sub>10</sub> O	(3)-2376		108-94-1

Impurities and/or Stabilizing Additives which Contribute to the Classification nil

Industrial Safety and Health Act (ISHA) «Dangerous or Harmful Substances for Notification of Chemical Name etc. on MSDS (Act Art.57-2, Enforcement Order Art.18-2 Appendix Table No.9)»

Propyl alcohol (Legislative decree No. 494) (0.95%)  
Cyclohexanone (Legislative decree No. 231) (20.7%)**4. First-Aids Measures****If inhaled**

- Remove to fresh air and keep at rest in a position comfortable for breathing.
- Get medical advice and attention.

**Skin Contact**

- Take off contaminated clothing and wash before reuse.
- Immediately rinse skin with water.
- Wash with plenty of soap and water.
- Get medical advice and attention.

**Eye Contact**

- Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
- Continue rinsing.
- Get medical advice and attention.

**Safety Data Sheet****Funginex® DC Fungicide**

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**Ingestion**

- Rinse mouth.
- Get medical advice and attention.

**Specific Notes to Physician**

- In case of ingestion gastric lavage is effective.
- Swallowing causes chemical pneumonia.
- Avoid inhalation of solvent vapour.
- Treat symptoms.

**5. Fire Fighting Measures****Extinguishing Media**

- Small fires: Dry chemical, CO<sub>2</sub>, water spray or regular foam.
- Large fires: Water spray, fog or regular foam.

**Unsuitable Extinguishing Media**

- Straight streams.

**Specific Hazards**

- Highly flammable; will be easily ignited by heat, sparks or flames.
- Containers may explode when heated.
- Fire may produce irritating, corrosive and/or toxic gases.
- Vapour explosion hazard indoors, outdoors or in sewerage.

**Specific Fire Fighting**

- Extremely flammable; Use water spray for massive fire if extinguishers except for water spray are not effective.
- Move containers from fire area if you can do it without risk.
- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
- Cool containers with flooding quantities of water until well after fire is out.
- In fire fighting, wear respiratory protection and chemical protective clothing.

**Protection of Fire Fighter****6. Accidental Release Measures****Personal Precautions, Protective Equipment and Emergency Procedures**

- Do not touch or walk through spilled material.
- Isolate the site as a leak area by providing a zone that has an appropriate width to all directions.
- Keep unauthorized personnel away.
- Wear appropriate personal protective equipment (Refer to "Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION") and avoid inhalation or contact with eyes and skin.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.
- Fully encapsulating vapour protective clothing should be worn for spills and leaks with no fire.

**Environmental Precautions**

- Do not release into the environment.
- Pay attention not to cause the influence on the environment by discharging into rivers.

**Decontamination / Absorption / Sweeping / Vacuuming / Neutralization**

- Small spills; absorb or cover with dry earth, sand or other non-combustible material and transfer to containers for later disposal.
- Small spills; Use clean non-sparking tools to collect absorbed material.
- Large spills; prevent flowing out with a dike and collect it at a safe place.
- Large spills; water spray may reduce vapour, but may not prevent ignition in closed spaces.

**Safety Data Sheet****Funginex® DC Fungicide**

Version : 3.6 E

Date / Revised : Nov 16, 2013

Conforming generally to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Fourth Revised Edition

Methods and Equipment for Containment and Cleaning up	<ul style="list-style-type: none"> <li>• Stop leak if you can do it without risk.</li> <li>• All equipment used when handling the product must be grounded.</li> <li>• A vapour suppressing foam may be used to reduce vapours.</li> </ul>
Prevention Measures for Secondary Accidents	<ul style="list-style-type: none"> <li>• Fully encapsulating, vapour protective clothing should be worn for spills or leaks with on fire.</li> <li>• Prevent entry into waterways, sewers, basements or confined areas.</li> </ul>

**7. Handling and Storage**

## Handling:

Technical measures	<ul style="list-style-type: none"> <li>• Provide ventilation system and use necessary personal protective equipment as described in "Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION".</li> </ul>
Local and general ventilation	<ul style="list-style-type: none"> <li>• Provide local and general ventilation as described in "Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION".</li> </ul>
Precautions for safety handling	<ul style="list-style-type: none"> <li>• Obtain special instructions before use.</li> <li>• Do not handle until all safety precautions have been read and understood.</li> <li>• Prohibit use of heat, sparks, and fire in the surrounding area.</li> <li>• Do not handle containers with such manners as tumbling down, falling, exposing to shock, or dragging.</li> <li>• Do not contact, breathe or swallow.</li> <li>• Use exhaust ventilation to keep airborne concentrations below exposure limits.</li> <li>• Wash hand thoroughly after handling.</li> <li>• Use only outdoors or in a well-ventilated area.</li> <li>• Avoid release to the environment.</li> </ul>
Prevents Handling of Incompatible Substances or Mixtures	<ul style="list-style-type: none"> <li>• Refer to "Section 10 - STABILITY AND REACTIVITY".</li> </ul>

## Storage :

Technical measures	<ul style="list-style-type: none"> <li>• The storage facility should be designed with fire-proof construction and beams should use a non-combustible material.</li> <li>• The roof of a storage facility should be made of a non-combustible material and use metals or other lightweight non-combustible materials. No ceiling should be installed.</li> <li>• The storage floor should be protected from water penetration, or should have water-proof construction.</li> <li>• The storage floor should have penetration-proof construction against dangerous goods and be inclined adequately. A proper sump should be provided to catch any spills.</li> <li>• The storage facility should be provided with necessary lighting, lighting equipment, and ventilator to store and handle dangerous goods.</li> </ul>
Incompatible Substances or Mixtures	<ul style="list-style-type: none"> <li>• Refer to "Section 10 - STABILITY AND REACTIVITY".</li> </ul>
Keeping condition	<ul style="list-style-type: none"> <li>• Keep away from heat, sparks, open flames and hot surfaces. – No smoking.</li> <li>• Store away from oxidants.</li> <li>• Have containers keep away from direct sunlight and heat.</li> <li>• Store in a well-ventilated and cool place keeping container tightly closed.</li> <li>• Store locked up.</li> </ul>

**Safety Data Sheet****Funginex® DC Fungicide**

Version : 3.6 E

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Conforming generally to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Fourth Revised Edition

Material Used in  
Packaging/Containers

- Use containers prescribed in the "Fire Service Law (Japan)" and the "UN Transport Regulations."

**8. Exposure Controls / Personal Protection**

	Standard Control Concentration (ppm)	Allowable Concentration (ppm) (Exposure Limit, Biological Exposure Indices)	
		J Soc of Indust Hygienic (2009)	ACGIH (2010)
Triforine	N/A	N/A	N/A
Isopropyl alcohol	200	【Max allowable conc】 400 (980 mg/m <sup>3</sup> )	TWA 200 STEL 400
Cyclohexanone	10	25 (100 mg/m <sup>3</sup> )	TWA 20 STEL 50 (Skin)

N/A: not applicable

**Engineering Controls**

- Use explosion-proof electrical, ventilating and lighting equipment.
- Take precautionary measures against static discharge.
- Workplace storing or handling this product should be equipped with eye washing station and safety shower.
- Good general ventilation should be sufficient to control airborne levels.
- Install ventilation system to keep exposure to airborne contaminants below the exposure limit if vapour, fume, mist generates in the process handling at elevated temperature.

**Personal Protective Equipment****Respiratory Protection**

- Use personal respiratory equipment as required.
- If ventilation is insufficient, wear an adequate protective apparatus for respiratory organs.

**Hand Protection**

- Wear protective gloves.

**Eye Protection**

- Wear eye protection.
- Protection glasses (ordinary glasses, ordinary glasses with side shields, and goggles).

**Skin and Body Protection**

- Wear face protection.
- Use personal protective clothing and face protection as required.

**Specific Hygiene Measures**

- Wash hand thoroughly after handling.

**9. Physical and Chemical Properties****Externals**

Appearance	Liquid
Physical state	Emulsified and oily
Colour	Clear and pale yellow/brownish yellow
Odour	Solvent odour
pH	3.7-4.4
Melting Point/Freezing Point	No data available

**Safety Data Sheet****Funginex® DC Fungicide**

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Initial Boiling Point and Boiling Ranges	No data available
Flash Point	53 °C (Tag Closed Cup)
Flammability or Explosive Limits	No data available
Vapour Pressure	No data available
Vapour Density (Air = 1)	No data available
Specific Gravity (Density)	1.075 g/cm <sup>3</sup> (20 °C)
Solubility	Emulsified and dispersed in water.
Partition Coefficient : n-Octanol/Water	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Evaporation Rate (Butyl acetate = 1)	No data available
Flammability (Solid, Gas)	No data available
Viscosity	No data available

**10. Stability and Reactivity**

Stability	Stable under normal handling.
Possibility of hazardous reaction	Reacts with strong acids and halogenides.
Conditions to avoid	Excessive heat. Heat, sparks, open flame, or ignition sources.
Incompatible materials	Oxidizing agents, strong acids, strong bases.
Hazardous decomposition products	Burning can produce carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen cyanide, hydrogen chloride.

**11. Toxicological Information**

Acute toxicity	oral LD50 in rat	3487 mg/kg, GHS not classified
	dermal LD50 in rat	>2000 mg/kg, GHS not classified
	Inhalation LC50 in rat	3.99mg/L/4h, Category 4: "Harmful if inhaled".
Skin corrosion/irritation		Category 2: "Causes skin irritation".
Serious eye damage/eye irritation		Category 2A: "Causes serious eye irritation".
Respiratory sensitization		"Classification not possible" due to no data available.
Skin sensitization		"Not classified"
Germ cell mutagenicity		Category 2:"Suspected of causing genetic defects".
Carcinogenicity		Category 2:"Suspected of causing cancer".
Reproductive toxicity		Category 2:"Suspected of damaging fertility or the unborn child".
Specific target organ toxicity (single exposure)		Category 1(liver, spleen, central nervous system):"Causes damage to liver, spleen, Central Nervous System".
		Category 2(respiratory system): "May cause damage to respiratory system".
		Category 3 (narcotic effect): "May cause drowsiness and dizziness".
Specific target organ toxicity (repeated exposure)		Category 1(kidney, liver, central nerve system):"Causes damage to these organs through prolonged or repeated exposure".
		Category 1(Inhalation: bone marrow, spleen, liver, respiratory tract, adrenal gland, kidney):"Causes damage to these organs through prolonged or repeated exposure by inhalation".
Aspiration hazard		"Classification not possible" due to no data available.

**12. Ecological Information**

**Safety Data Sheet****Funginex® DC Fungicide**

Version : 3.6 E

Date / Revised : Nov 16, 2013

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Hazardous to the aquatic environment Acute toxicity	Category 3:"Harmful to aquatic life – <i>Cyprinus carpio</i> - Carp" (96Hr LC50; 14.3mg/L) <i>Daphnia magna</i> 48hr EC50 47mg/L: GHS not classified: <i>Desmodesmus subspicatus</i> 96hr EC50 362.7 96hr NOEC 125 mg/L: GHS not classified
Hazardous to the aquatic environment Chronic toxicity	"Classification not possible" due to insufficient data available.

**13. Disposal Considerations**

Further information	<ul style="list-style-type: none"> <li>• Dispose of as hazardous waste in compliance with local and national regulations.</li> <li>• Dispose of wastes in an approved waste disposal facility.</li> </ul>
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**14. Transportation Information**

## International regulation

Regulatory Information by Sea	Complies with the regulations under IMO
UN No.	1993
Proper Shipping Name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing Group	III
Marine Pollutant	Not Applicable
Regulatory Information by Air	Complies with the regulations under ICAO/IATA
UN No.	1993
Proper Shipping Name	Flammable liquid, N.O.S.
Class	3
Packing Group	III

## Regulation in Japan

Regulatory Information by Road	Complies with the Fire Fighting Act.
Regulatory Information by Sea	Complies with the Marine Transportation Safety Act
UN No.	1993
Proper Shipping Name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packaging Group	III
Marine Pollutant	Not applicable
Regulatory Information by Air	Complies with the Civil Aeronautics Act
UN No.	1993
Proper Shipping Name	Flammable liquid, N. O. S.
Class	3
Packing Group	III

## Specific Safety Measures

- Examine containers before transport for external signs of damage, corrosion, leakage, etc.
- Avoid falling, tumbling down, or damage the containers
- During transport, avoid tumbling down, shock, friction, damage by depression, or leakage.
- Taking a measure to avoid causing friction and rocking.
- Avoid direct sunlight during transport to prevent damage, corrosion, leakage, and collapse of the load.
- In case of accident, notify a nearby fire station or other related fire fighting organization.
- Do not stack heavy goods.



**Safety Data Sheet****Funginex® DC Fungicide**

Version : 3.6 E

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Emergency Response Guide Number

- Carry the yellow card during transport.
- 128

**15. Regulatory Information**

Industrial safety and Health Act

- Dangerous or Harmful Substances for Notification of Chemical Name etc. on MSDS (Act Art.57-2, Enforcement Order Art.18-2 Appended Table No.9) (propyl alcohol, cyclohexanone)
- Dangerous or Harmful Substances for Indication of Chemical Name etc. (Act Art.57, para.1, Enforcement Order Art.18) (cyclohexanone)
- The second kind organic solvent etc. (the 4th sixth of enforcement ordinance attached tables of solvent poisoning prevention rules in Article 1 clause 1 two organic)(isopropyl alcohol, cyclohexanone)
- Flammable Substances; Dangerous Substances (Enforcement Order Appended Table 1 item 4)

Labour Standard Act

- Causing Illness Chemical Substances (Act Art.75, para. 2, Enforcement Rule (Ministry Order) Appended Table 1-2, item 4-1, MHLW Notification No.36 of 1978(cyclohexanone)

Waste Management and Public Cleaning Act

- Specially Controlled Industrial Wastes, (Act Art.2, para 5, Enforcement Order Art.2-4)(Waste oil with the flash point equal or less than 70°C)

Fire Fighting Act

- Group 4, Flammable Liquids, Type 2 Petroleum, Water Insoluble (Act Art.2 para.7, Appended Table 1, Group 4-4)

Marine Transportation Safety Act

- Flammable Liquids (Regulations for the Transport and Storage of Dangerous Goods by Ships Art.3, Public Notice for Marine Transport of Dangerous Goods etc., Appended Table 1)

Civil Aeronautics Act

- Flammable Liquids (Act Art.86 para.1, Enforcement Regulations Art.194 para.1,2, Public Notice for Air Transportation Standard of Explosives etc., Appended Table 1)

**16. Other Information**

Technical Contact

Sumitomo Corporation

Reference literature

GHS Classification Information (NITE)  
 EU CLP Regulation  
 GHS-MSDS (CHEMWATCH)  
 RTECS(2006-2009)  
 MSDS by Sumitomo Corporation.

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