



# SYNERGY BURNOFF SAFETY DATA SHEET

## 1: Identification of the Substance and Supplier

<b>Product Name:</b>	<b>SYNERGY BURNOFF</b>
<b>Recommended Use:</b>	Herbicide Adjuvant
<b>Company Details:</b>	Orion Crop Protection Ltd 14 – 22 Triton Drive, North Harbour, Auckland PO Box 100 570, North Shore Mail Centre, 0745 New Zealand
<b>Telephone Number:</b>	(09) 415 1679 (office hours)
<b>Emergency Telephone:</b>	0800 CHEMCALL (0800 243 622) (24 hours)
<b>National Poison Centre:</b>	0800 POISON (0800 764 766) (24 hours)
<b>Date of Issue/Revision:</b>	June 2009

## 2: Hazards Identification

<b>Priority Identifiers:</b>	<b>Flammable Liquid, Harmful, Ecotoxic, Keep Out of Reach of Children</b>
<b>HSNO Classes:</b>	<b>Secondary Identifiers:</b>
<b>3.1C</b>	Flammable liquid and vapour
<b>6.1E</b>	May be harmful if swallowed, inhaled or absorbed through the skin
<b>6.3A</b>	May cause skin irritation
<b>6.4A</b>	May cause eye irritation
<b>6.5B</b>	May cause sensitisation from prolonged skin contact
<b>6.8A</b>	May cause reproductive/development damage from repeated ingestion
<b>6.9B</b>	May cause organ damage from repeated ingestion at high doses
<b>9.1A</b>	Very toxic to aquatic organisms
<b>9.2B</b>	Harmful to soil organisms

## 3: Composition/ Information on Ingredients

<b>Ingredient</b>	<b>CAS No</b>	<b>Content (% w/v)</b>
D-limonene (active ingredient)	5989-27-5	30 – 60
Oxyfluorfen (active ingredient)	42874-03-3	<10
N-methyl pyrrolidone	872-50-4	10 - 30
Solvent naphtha	64742-94-5	<10
Other ingredients, surfactants, etc	Proprietary	Remainder

#### 4: First Aid Measures

<b>Skin Contact:</b>	In case of contact, immediately wash affected area with soap and water. Wash contaminated clothing before reuse. Seek medical advice if irritation persists.
<b>Eye Contact:</b>	Hold eyes open and rinse with water for at least 15 minutes. Remove contact lenses if easy to do so. Seek medical advice immediately.
<b>Ingestion:</b>	Do not induce vomiting. Seek medical advice immediately.
<b>Inhalation:</b>	Immediately move to fresh air and rest. Maintain half upright position if breathing is difficult. Seek medical advice immediately.
<b>Workplace Facilities:</b>	Hand wash facility. Eye wash facility.
<b>Advice to Doctor:</b>	Treat symptomatically. If gastric lavage or emesis is considered necessary, inhalation of hydrocarbons must be prevented.
<b>National Poison Centre:</b>	0800 POISON (0800 764 766) (24 hours)

#### 5: Fire-Fighting Measures

<b>Fire/Explosion Hazard:</b>	Flammable liquid and vapour. Explosive concentrations of vapours may form in enclosed or poorly ventilated areas.
<b>HAZCHEM Code:</b>	3[Y]
<b>ERP Guide No:</b>	14
<b>Extinguishing Media:</b>	Water spray, foam, dry chemical or CO <sub>2</sub> . Avoid water jet.
<b>Fire Fighting Instructions:</b>	During a fire, toxic fumes may be emitted. Wear self-contained breathing apparatus. Contain runoff.

#### 6: Accidental Release Measures

Caution: Floors may be slippery if wet. Eliminate all ignition sources and naked lights. Use non-sparking equipment. Leave and/or avoid entering confined spaces. When dealing with spills wear personal protective clothing and equipment as described in section 8. Prevent further spillage or leakage. Keep bystanders away. Absorb spillage with inert material such as spill kit, sand or cat litter. Collect and place in a sealable container for disposal. Wash down affected area with water and detergent. Absorb and collect washings for disposal. Dispose of safely to a suitable landfill.

#### 7: Storage, Handling and Use

<b>Storage:</b>	Keep out of reach of children. Do not store near heat, flame or other source of ignition. Store in the original, tightly closed container, in a secure and well ventilated area.
<b>Handling and Use:</b>	Keep out of reach of children. Avoid contact with eyes and skin. Avoid inhalation of vapour or spray mist. Avoid handling, mixing or use of the product or container near heat, flame or other source of ignition. Take precautionary measures against static discharges. Mix in a well ventilated area. When mixing or applying, wear protective clothing as described in section 8. Do not eat, drink or smoke while using. Wash hands and face after use. Wash protective clothing after use.
<b>Approved Handler Tracking Record Keeping</b>	Not required.
<b>Site Requirements under the HSNO Act 1996 and HSNO Regulations:</b>	Not required.
	<ul style="list-style-type: none"><li>• A location test certificate is required for more than 500 litres (closed containers &gt; 5 litres size), 1500 litres (closed containers ≤ 5 litres size), or 250 litres (open containers)</li></ul>

<b>Additional Requirements</b>	<ul style="list-style-type: none"> <li>• A hazardous atmosphere zone is required for more than 100 litres (closed containers), 25 litres (decanting), 5 litres (container open occasionally, or 1 litre (container continuously open)</li> <li>• Fire extinguishers are required for more than 500 litres (2 fire extinguishers)</li> <li>• Signage is required for 100 litres or more</li> <li>• Emergency information is required for 0.1 litres or more</li> <li>• An emergency plan is required for more than 100 litres</li> <li>• Secondary containment is required for more than 100 litres</li> <li>• Separation/Segregation from incompatible substances (classes 1, 2, 3.2, 4 and 5) is required.</li> </ul> <p>All aspects of storage, handling, use, disposal and record keeping must be in accordance with NZS 8409:2004 'Management of Agrichemicals', and relevant local and regional council plans.</p>
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<b>8: Exposure Control / Personal Protection</b>	
<b>Tolerable Exposure Limit:</b>	None established.
<b>Workplace Exposure Standards:</b>	<p><b>Product</b> – None established (Use lowest practicable level).  <b>Active ingredient</b> – None established (Use lowest practicable level).  <b>Excipients:</b>            N-methyl pyrrolidone 103 mg/m<sup>3</sup>, 25 ppm (8 hr TWA), 309 mg/m<sup>3</sup>, 75 ppm (15 min STEL)            Recommendation: Hydrocarbon solvent 15 ppm (8 hr TWA) 30 ppm (15 min STEL)            Others - None established (Use lowest practicable level).</p>
<b>Engineering Controls:</b>	Not limited given nature of use.
<b>Personal Protection:</b>	
<b>Eye:</b>	Safety glasses/goggles (or full face respirator incorporating visor) when mixing or applying.
<b>Skin:</b>	Cotton overalls snugly fitting at the neck, wrist and ankle, chemical resistant boots and gloves (barrier multilayer, nitrile). For overhead applications, use head covering (coveralls with hood recommended).
<b>Respiratory:</b>	Not required where vapour or spray mist is not inhaled. Otherwise, respirator (organic vapour and particulate matter) is required.

<b>9: Physical and Chemical Properties</b>	
<b>Appearance:</b>	Amber liquid
<b>Odour:</b>	Citrus
<b>Boiling Point:</b>	>100°C
<b>Flash Point:</b>	55°C (closed cup method)
<b>Auto ignition Temperature:</b>	Not available
<b>Explosive Limits:</b>	Not available. Undiluted product may form explosive mixture in enclosed or poorly ventilated areas (if container not kept tightly closed).
<b>Density:</b>	0.92 g/mL (approx)
<b>Vapour Pressure:</b>	Not available
<b>Vapour Density:</b>	> 1 (heavier than air)
<b>Solubility in Water:</b>	Emulsifiable
<b>pH:</b>	Not available
<b>Oxidising Properties:</b>	Not an oxidizer
<b>Corrosive Properties:</b>	Not a corrosive

## 10: Stability and Reactivity

<b>Stability:</b>	Stable under normal conditions.
<b>Incompatibility:</b>	Avoid mixing with strong acids, alkalis, and oxidizing agents such as chlorine compounds, ammonium nitrate, etc.
<b>Decomposition:</b>	Decomposition will not occur under normal conditions.
<b>Dangerous Reactions:</b>	Products arising from combustion or thermal decomposition may be toxic, corrosive or flammable.

## 11: Toxicological Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet.

<b>Swallowed:</b>	Nausea, vomiting, headache, stomach cramps. The volatile hydrocarbons in this product may cause bronchopneumonia or pulmonary oedema if aspirated into the lungs from ingestion or from vomiting.
<b>Eye:</b>	Irritation.
<b>Skin:</b>	Irritation. Prolonged or repeated contact may result in degreasing of the skin and dermatitis. Contact may induce an allergic response in susceptible individuals.
<b>Inhalation:</b>	Irritation, headache, dizziness, nausea, vomiting.
<b>Acute Toxicity: (Active ingredients)</b>	<b>D-Limonene:</b> Acute Oral LD50 (Rat) 4400 mg/kg Acute Dermal LD50 (Mouse) 3170 mg/kg <b>Oxyfluorfen:</b> Acute Oral LD50 (Rat) 5000 mg/kg Acute Dermal LD50 (Rabbit) 10000 mg/kg Inhalation LC50 (4 hr) (Rat) > 5.4 mg/l
<b>Sensitisation Effects:</b>	Potential contact sensitizer, which can cause an allergic skin reaction in susceptible individuals
<b>Mutagenic Effects:</b>	None
<b>Carcinogenic Effects:</b>	None
<b>Reproductive Effects:</b>	Ingredient has limited evidence of reproductive effects in animal studies
<b>Teratogenic (Birth) Effects:</b>	Ingredient has limited evidence of teratogenic effects in animal studies
<b>Systemic Effects:</b>	Ingestion at high doses is damaging to organs such as the liver.

## 12: Ecotoxicity Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet.

**The following information is presented in respect of the active ingredients:**

<b>Ecotoxic Effects:</b>	<b>D-Limonene:</b> LC50 (96 hr) (Fish) <1 mg/l LC50 (48 hr) (Daphnia) <1 mg/l EC50 (72 hr) (Algae) <1 mg/l LD50 (Earthworm) 6 mg/kg Non-toxic to bees <b>Oxyfluorfen:</b> Acute Oral LD50 (Bobwhite quail) >2150 mg/kg LC50 (96 hr) (Bluegill sunfish) 0.2 mg/l LC50 (48 hr) (Daphnia) 1.5 mg/l Very toxic to some plant species (selective herbicide) Non-toxic to bees
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<b>Environmental Fate:</b>	Biodegradable. DT50 (soil) 5 - 55 days (oxyfluorfen)
<b>Partition Co-Efficient (Kow):</b>	LogP = 4.2 (high) (D-Limonene)
<b>Environmental Exposure Limit:</b>	LogP = 4.47 (high) (oxyfluorfen)
	None established.

### 13: Disposal Considerations

<b>Product:</b>	Dispose of product by using it in accordance with the label. Do not burn. Waste product should be disposed of to a suitable landfill. For disposal of large quantities contact Orion Crop Protection Ltd.
<b>Container:</b>	Dispose of to a suitable landfill or agricultural recycling scheme. Do not burn. Do not use packaging for any other purpose.

### 14: Transport Information

<b>Dangerous Goods:</b>	
<b>UN Number:</b>	1993
<b>Proper Shipping Name:</b>	FLAMMABLE LIQUID, N.O.S. (D-LIMONENE 50%)
<b>Class:</b>	3
<b>Subsidiary Class:</b>	None
<b>Packing Group:</b>	III
<b>Additional Information:</b>	MARINE POLLUTANT
<b>MTQ (Non-Commercial)</b>	250 litres
<b>Passenger Service Vehicle:</b>	Maximum quantity 2.5 litre.

### 15: Regulatory Information

<b>HSNO Approval No:</b>	HSR0002495
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### 16: Other Information

<b>Glossary</b>	
Approved Handler	For some hazardous substances, persons storing, handling and using must be trained and certified
DT50	Time (days) for 50% reduction in concentration
EC50	Concentration required to produce an effect in 50% of organisms
Environmental Exposure Limit	Maximum concentration limit of a substance in an environmental medium, e.g., water, soil.
ERMA	Environmental Risk Management Authority
ERP Guide	Dangerous Goods – Initial Emergency Response Guide SNZ HB 76:2008
HAZCHEM Code	Emergency action code for emergency services
HAZNOTE	A brief document providing hazardous substance information for transport, storage and emergency management purposes
HSNO	Hazardous Substances and New Organisms
LC50	Concentration that will kill 50% of organisms
LD50	Dose that will kill 50% of organisms
MTQ	Maximum Transport Quantity. The maximum amount of dangerous goods that can be transported by road by the user

Partition Co-Efficient Kow	Ratio of concentration between octanol and water. Values are given as the log value. A high value indicates a substance may bioaccumulate
Record Keeping	Spray diary
STEL	Short term exposure level
Tolerable Exposure Limit	Maximum concentration limit of a substance above which persons must not be exposed
Tracking	For some hazardous substances, a record must be kept of the transport, storage, sale and use of the product
TWA	Time weighted average
Workplace Exposure standard	An occupational health standard limiting concentrations of specified substances to which persons are exposed

**Please Note**

Users must ensure that the most up to date version of this safety data sheet is used. This Safety Data Sheet summarises information on this product, and how to safely handle and use the product. Each user should familiarise themselves with the product label, HazNote and Safety data Sheet, and consider the information in the context of how the product will be handled and used, including in conjunction with other products. Orion Crop Protection Ltd assumes no responsibility for the accuracy, completeness or suitability of this information. The user is responsible for determining the suitability and accuracy of this information for their particular purposes. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. Always read the product label before use.