

Issue Date 15-May-2015

Revision Date 08-May-2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name **CropSaver**

Pure substance/mixture Mixture

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

Application Premixture.

Uses advised against Not identified.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Profitable Farming Company Ltd

Middle Barlington

Roborough

Winkleigh

Devon

EX19 8AG

1.4. Emergency telephone number

(+44(0)7967 300578 / (+)44(0)7974 093699 (8am - 6pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation

Serious eye damage/eye irritation

Specific target organ toxicity (single exposure)

Corrosive to metals

Category 2 - (H315)

Category 1 - (H318)

Category 3 - (H335)

Category 1 - (H290)

Classification according to Directive 67/548/EEC or 1999/45/EC

Full text of R-phrases: see section 16

Hazard symbols

Xi - Irritant

R-code(s)

Xi;R37/R38-R41

2.2. Label elements

Symbols/Pictograms



Signal word

Danger

Hazard statements

H318 - Causes serious eye damage
 H315 - Causes skin irritation
 H335 - May cause respiratory irritation
 H290 - May be corrosive to metals

Precautionary Statements

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
 P280 - Wear protective gloves and eye/face protection
 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 CENTRE or doctor
 P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
 P390 - Absorb spillage to prevent material damage

Contains: Propionic acid 30-40%

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	REACH registration number	weight-%	Classification according to Directive 67/548/EEC or 1999/45/EC	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ammonium propionate	241-503-7	17496-08-1	No data available	35-45	Not classified	Not classified
Propionic acid	201-176-3	79-09-4	01-2119486971-24-0002	30-40	C; R34 Xi; R37 R10	Flam. Liq. 3 (H226) Skin Corr. 1B (H314) Eye Dam. 1 (H318) STOT SE 3 (H335)
Citric acid	201-069-1	77-92-9	01-2119457026-42	1-<3	Xi;R36	Eye Irrit. 2 (H319)

Full text of R-phrases: see section 16

Full text of H- and EUH-phrases: see section 16

Additional information

No information available

SECTION 4: First aid measures**4.1. Description of first aid measures**

General advice	Immediate medical attention is required. Emergency eyewash facilities must be located in the vicinity of where the product is handled.
Inhalation	Remove to fresh air. Rinse mouth with water. If irritation persists get medical advice/attention.
Skin contact	Immediately flush skin with water and rinse skin with soap and water for at least 5-10 minutes. Use lukewarm water if possible. Remove contaminated clothing and shoes. Get medical attention if redness does not disappear.
Eye contact	Immediate medical attention is required. Rinse immediately with plenty of water, also

under the eyelids, for at least 15 minutes. Use lukewarm water if possible. Keep eye wide open while rinsing.

Ingestion

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. If a large quantity has been ingested or you feel unwell, get medical advice/attention.

Self-protection of the first aider

Avoid contact with skin, eyes or clothing.

4.2. Most important symptoms and effects, both acute and delayed

Eye contact: Causes severe irritation with flood of tears and pain and strong redness and swelling of the eye. Risk of permanent eye damage. May cause skin irritation and/or dermatitis. Inhalation of vapours in high concentration may cause irritation of respiratory system.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

Unsuitable extinguishing media

High volume water jet.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂).

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

Additional information

Cool containers with flooding quantities of water until well after fire is out. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate affected area. Remove all sources of ignition.

6.2. Environmental precautions

Minimize the area spreading and cover the drains. Do not allow into any sewer, on the ground or into any body of water. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional ecological information.

6.3. Methods and material for containment and cleaning up**Methods for containment**

Small spill	Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal
Large spill	Pump up the product into a spare container suitably labelled.

Methods for cleaning up

Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

6.4. Reference to other sections

See Section 7,8,13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8. Avoid: aerosol or mist formation.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Take off all contaminated clothing and wash it before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Keep/store only in original container. Keep tightly closed in a dry and cool place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

7.3. Specific end use(s)

This information is supplied in the present Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Keep personal exposure levels below Derived No Effect Level (DNEL) and national exposure limit values (if existing).

Chemical Name	European Union	United Kingdom
Propionic acid 79-09-4	TWA 10 ppm TWA 31 mg/m ³ STEL 20 ppm STEL 62 mg/m ³	TWA: 10 ppm TWA: 31 mg/m ³ STEL: 15 ppm STEL: 46 mg/m ³

Derived No Effect Level (DNEL) - worker

Propionic acid (79-09-4)			
Type	Exposure route	DNEL	Remarks
Acute effects, local	Inhalation	62	mg/m ³
Acute effects, systemic	Inhalation	62	mg/m ³
Chronic effects, local	Inhalation	31	mg/m ³
Chronic effects, systemic	Inhalation	31	mg/m ³
Chronic effects, local	Dermal	260	µg/cm ²
Chronic effects, systemic	Dermal	132	mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Propionic acid (79-09-4)		
Environmental compartment	Predicted No Effect Concentration (PNEC)	Remarks
Freshwater	0.5	mg/l
Intermittent	5	mg/l
Impact on Sewage Treatment	5	mg/l
Marine water	0.05	mg/l
Freshwater sediment	1.86	mg/kg dry weight
Marine sediment	0.186	mg/kg dry weight
Soil	0.1258	mg/kg dry weight

Citric acid (77-92-9)

Environmental compartment	Predicted No Effect Concentration (PNEC)	Remarks
Freshwater	0,44	mg/l
Freshwater sediment	34.6	mg/kg dry weight
Marine water	0.044	mg/l
Marine sediment	3.46	mg/kg dry weight
Impact on Sewage Treatment	1000	mg/l
Soil	33.1	mg/kg dry weight

8.2. Exposure controls

Appropriate engineering controls

Eyewash stations. Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles.
Hand Protection	Wear protective gloves. Butyl rubber. Chloroprene rubber, CR. Nitrile rubber, NBR. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.
Skin and body protection	Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes).
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Suitable respiratory protection for lower concentrations or short-term exposure: Gas filter for gases/vapours of organic compounds (boiling point >65°C, e. g. Type A) Suitable respiratory protection for higher concentrations or long-term exposure: Self-contained breathing apparatus.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

Colourless liquid

Odour

Pungent

Odour threshold

No information available

Property**Values****pH**

4.5 - 5.5

pH

5.7 - 6.1

Melting point/freezing point**Boiling point / boiling range****Flash point**

>66 °C

Evaporation rate**Explosive limits**

Upper explosive limits

Lower explosive limits

Vapour pressure**Vapour density****Relative density****Water solubility****Solubility(ies)****Partition coefficient****Autoignition temperature****Decomposition temperature****Kinematic viscosity****Dynamic viscosity****Explosive properties****Oxidising properties****Density**1000-1100 kg/m³**Bulk density****Remarks**

solution (5 %)

end solution

Not determined

Not determined

No information available

No information available

No information available

No information available

No information available

No information available

No information available

Soluble in water

No information available

See Section 12 for additional ecological information

No information available

Not determined

No information available

No information available

The product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Not oxidizing.

@ 20 °C

No information available

9.2. Other information

No information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

There exists no specific test data for this product. For further information, see the subsequent subsections of this chapter.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reacts with: Strong bases, Oxidising substances.

10.4. Conditions to avoid

None under normal use conditions.

10.5. Incompatible materials

Corrosive to metal.

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Information on likely routes of exposure**

Inhalation. Dermal.

Symptoms related to the physical, chemical and toxicological characteristics

See Section 4 for more information.

Numerical measures of toxicity**Acute toxicity****The following values are calculated based on chapter 3.1 of the GHS document**

ATEmix (oral)	9,209 mg/kg mg/l
ATEmix (inhalation-vapour)	563 mg/l

Acute oral toxicity	0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
Acute dermal toxicity	36 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
Acute inhalation toxicity - vapour (vapour)Acute inhalation toxicity – dust/mist	2 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity 38 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Propionic acid (79-09-4)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 401: Acute Oral Toxicity	Rat	Oral	3455	LD50 (lethal dose) mg/kg
OECD Test No. 403: Acute Inhalation Toxicity	Rat	Inhalation	>20	Inhalation LC50 - 4 hour - vapour - mg/L

Citric acid (77-92-9)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 401: Acute Oral Toxicity	Mouse	Oral	5400	LD50 (lethal dose) mg/kg
OECD Test No. 402: Acute Dermal Toxicity	Rat	Dermal	>2000	LD0 mg/kg

Skin corrosion/irritation

Irritating to skin. Safety factor.

Product Information					
Method	Species	Exposure route	Effective dose	Exposure time	Remarks
OECD Test No. 404:	Rabbit	Skin			Causes mild skin

Acute Dermal Irritation/Corrosion					irritation Category 3 Read-across from similar product
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Propionic acid (79-09-4)

Method	Species	Exposure route	Results
Unknown	Rabbit	Dermal	Corrosive

Citric acid (77-92-9)

Method	Species	Exposure route	Results
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal	Causes mild skin irritation No classification according to GHS criteria.

Serious eye damage/eye irritation

Risk of serious damage to eyes.

Product Information

Method	Species	Exposure route	Remarks
OECD 438	in vitro		Causes serious eye damage Read-across from similar product

Propionic acid (79-09-4)

Method	Species	Exposure route	Results
Unknown	Rabbit	Eye	Corrosive

Citric acid (77-92-9)

Method	Species	Exposure route	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	Eye	Non-irritant (30%)
			Causes serious eye irritation (100%)

Respiratory or skin sensitisation

According to the data on the components: No sensitising effects known.

Propionic acid (79-09-4)

Method	Species	Exposure route	Results
OECD Test No. 406: Skin Sensitisation	Guinea pig	Skin	Not a skin sensitiser

Germ cell mutagenicity

According to the data on the components: Not mutagenic.

Propionic acid (79-09-4)

Method	Species	Results
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro	Negative
OECD Test No. 476: In vitro Mammalian Cell Gene Mutation Test	in vitro	Negative
OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test	in vitro	Negative
OECD Test No. 474: Mammalian Erythrocyte Micronucleus Test	in vivo	Negative

Citric acid (77-92-9)		
Method	Species	Results
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro	Negative
OECD 487	in vitro	Positive
OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test	in vitro	Positive
OECD Test No. 475: Mammalian Bone Marrow	In vivo	Negative

Carcinogenicity

According to the data on the components. Animal studies have not shown any carcinogenic potential.

Propionic acid (79-09-4)				
Method	Species	Exposure route	Effective dose	Remarks
Unknown	Rat	Oral	4000	NOAEL ppm Animal studies have not shown any carcinogenic potential.

Citric acid (77-92-9)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 451: Carcinogenicity Studies	Rat	Oral		No carcinogenic effects have been observed.

Reproductive toxicity

According to the data on the components: No impairment of fertility has been observed. No embryotoxic or teratogenic effects have been observed.

Propionic acid (79-09-4)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 414: Pre-natal Development Toxicity Study	Rat	Oral	300	NOAEL mg/kg bw/day read-across from supporting substance (structural analogue)

Citric acid (77-92-9)				
Method	Species	Exposure route	Effective dose	Remarks
Unknown	Rat	Oral	>295	NOAEL mg/kg bw/day Teratogenicity
Unknown	Mouse	Oral	>272	NOAEL mg/kg bw/day Teratogenicity

STOT - single exposure Target organ effects: Irritating to respiratory system

Propionic acid (79-09-4)				
Method	Species	Exposure route	Effective dose	Remarks
		Inhalation		Irritating to respiratory system

STOT - repeated exposure

Propionic acid (79-09-4)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat	Oral	6200	NOAEL Chronic effects, local ppm
OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat	Oral	50000	NOAEL systemic toxicity ppm
OECD Test No. 411: Sub-chronic Dermal Toxicity: 90-day Study	Mouse	Dermal	136.9	LOAEL Subchronic toxicity mg/kg bw/day

Citric acid (77-92-9)				
Method	Species	Exposure route	Effective dose	Remarks
Unknown	Rat	Oral	4000	NOAEL mg/kg bw/day

Aspiration hazard

No information available.

SECTION 12: Ecological information**12.1. Toxicity**

Low toxicity to aquatic organisms.

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Propionic acid (79-09-4)					
Method	Species	Exposure route	Effective dose	Exposure time	Remarks
DIN 38412	Leuciscus idus	Freshwater	>10000	96h	LC50 (lethal concentration) mg/l
Regulation (EC) No. 440/2008, Annex, C.2	Daphnia magna	Freshwater	>500	48h	EC50 (effective concentration) mg/l
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Scenedesmus subspicatus	Freshwater	>500	72h	EC50 (effective concentration) mg/l
DIN 38412	Leuciscus idus	Freshwater	>5000	96h	NOEC mg/l
Regulation (EC) No. 440/2008, Annex, C.2	Daphnia magna	Freshwater	250	48h	NOEC mg/l

Citric acid (77-92-9)					
Method	Species	Exposure route	Effective dose	Exposure time	Remarks
OECD Test No. 203: Fish, Acute Toxicity Test	Leuciscus idus	Freshwater	440-760	96h	LC50 (lethal concentration) mg/l
Unknown	Daphnia magna	Freshwater	1535	24h	EC50 (effective concentration) mg/l
Unknown	Bacteria toxicity Scenedesmus quadricauda	Freshwater	640	8d	LC50 (lethal concentration) mg/l

12.2. Persistence and degradability

Based on the degradability studies on the ingredients, the product is expected to be readily biodegradable.

Propionic acid (79-09-4)			
Method	Value	Exposure time	Results
Regulation (EC) No. 440/2008, Annex, C.5 (BOD)	93%	20d	Readily biodegradable
OECD Test No. 302B: Inherent Biodegradability: Zahn-Wellens/ EVPA Test	95%	10d	Readily biodegradable
Unknown	74%	30d	Readily biodegradable

Citric acid (77-92-9)			
Method	Value	Exposure time	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	97%	28d	Readily biodegradable

12.3. Bioaccumulative potential

Based on the partition coefficients of the ingredients the product is not expected to bioaccumulate in organisms.

Chemical Name	Partition coefficient	Bioconcentration factor (BCF)
Propionic acid	0.33	
Citric acid	-1.72	

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

Emissions to water lowers the pH. This may cause local damage to fish and aquatic organisms in the discharge area.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Waste from residues/unused products**

This material and its container must be disposed of as hazardous waste.

Contaminated packaging

Contaminated packaging materials must be disposed of in the same manner as the product.

Waste codes / waste designations according to EWC / AVV

Waste from residues/unused products: 16 03 05*.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information**ADR Road transport**

14.1 UN number	UN1848
14.2 UN proper shipping name	Propionic acid
Proper Shipping Description	UN1848 Propionic acid , 8, III, (E)
14.3 Transport hazard class(es)	8
14.4 Packing Group	III
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	None
Tunnel restriction code	(E)
Limited quantity (LQ)	5 L
ADR Hazard Id (Kemmler Number)	80

RID Rail transport

14.1 UN number	UN1848
14.2 UN proper shipping name	Propionic acid
Proper Shipping Description	UN1848 Propionic acid , 8, III
14.3 Transport hazard class(es)	8
14.4 Packing Group	III
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	None

IMDG Sea transport

14.1 UN number	UN1848
14.2 UN proper shipping name	Propionic acid
Proper Shipping Description	UN1848 Propionic acid , 8, III
14.3 Transport hazard class(es)	8
14.4 Packing Group	III
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	None
EmS-No	F-A, S-B
Limited quantity (LQ)	5 L
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

IATA Air transport

14.1 UN number	UN1848
14.2 UN proper shipping name	Propionic acid
14.3 Transport hazard class(es)	8
14.4 Packing Group	III
Proper Shipping Description	UN1848 Propionic acid , 8, III
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	None
Limited quantity (LQ)	1 L
ERG Code	8L

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations**

Not applicable.

European Union

REGULATION (EC) No 1831/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on additives for use in animal nutrition

Germany

Water hazard class (WGK)

Water endangering class = 1 (self classification)

15.2. Chemical safety assessment

Not applicable.

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of R-phrases referred to under sections 2 and 3**

R10 - Flammable
R34 - Causes burns
R36 - Irritating to eyes
R37 - Irritating to respiratory system
R41 - Risk of serious damage to eyes
R37/38 - Irritating to respiratory system and skin

Full text of H-Statements referred to under section 3

H226 - Flammable liquid and vapour
H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

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Revision Note Not applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, COMMISSION REGULATION (EU) No. 453/2010 of 20 May 2010.

Disclaimer

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.

End of Safety Data Sheet