



## Safety Data Sheet

This version supersedes all previous versions. Published 1<sup>st</sup> June 2015  
This SDS has been created in compliance with CLP Regulation (EC) No 1272/2008 in accordance with Globally Harmonized System of Classification and Labelling of Chemicals (GHS) and REACH EC No 1907/2006.

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

#### **1.1 Product identifier:**

Agent Apple Extreme Degreaser

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

Bicycle part degreaser.

Agent Apple Extreme Degreaser is designed for immersing metal parts in to remove lubricant, grease and general dirt.

As such it is an 'immersion degreaser'. For best results, use a 4 pint / 2 litre plastic milk bottle cut in half. Put object to be degreased inside, then immerse with degreaser.

Leave for up to 4 hours, then brush off any remaining grime with an old toothbrush.

#### **1.3 Details of the Supplier of the Safety Data Sheet: Manufacturer / Supplier**

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## **Section 2: Hazards identification**

### **2.1 Classification of the substance or mixture:**

H411	Toxic to aquatic life with long lasting effects
H225	Highly flammable liquid and vapour
H315 + H320	Causes skin and eye irritation
H317	Contains d-Limonene. May cause an allergic skin reaction

### **2.2 Label elements**



### **Signal word:**

Danger

### **Hazard Statements:**

H411	Toxic to aquatic life with long lasting effects
H225	Highly flammable liquid and vapour
H315 + H 320	Causes skin and eye irritation
H317	Contains d-Limonene. May cause an allergic skin reaction

### **Prevention:**

P102	Keep out of reach of children
P210	Keep away from sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed

### **Response:**

P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P370 + P378	In case of fire: Use foam or CO <sub>2</sub> to extinguish

### **Disposal:**

P501	Dispose of contents to compost bin or suitable waste disposal facility. Dispose of container to aluminium recycling facility.
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## 2.3 Other hazards

Contains d-limonene, an orange peel extract. CAS number 68647-72-3.  
May cause allergic skin reaction.

## **Section 3: Composition / information on ingredients**

### 3.1 Non hazardous ingredients

Organic, fermented apple extract.

CAS number	% Weight	Name	Classification according to Regulation (EC) No 1278/2008 (CLP).
8028-52-9	<5%	Organic fermented apple extract / apple cider vinegar.	Not hazardous

### Section 3.2: Hazardous ingredients:

Contains bioethanol from EU grown sugar.

CAS number	REACH Registration number where available	% Weight	Name	Classification according to Regulation (EC) No 1278/2008 (CLP).
64-17-5	01-2120063206-63	>50%	Bioethanol	H225 Flammable liquid and vapour
68647-72-3	01-2119529223-47	<25%	d-Limonene	H411 Toxic to aquatic life with long lasting effects H224 Highly flammable liquid and vapour. H315 + H320 Causes skin and eye irritation. H317: Contains d-Limonene. May cause an allergic skin reaction.
8028-52-9	Exempt	<1%	Fermented apple extract	H319 Causes serious eye irritation.
78-93-3	Exempt	<1%	Methyl ethyl ketone	H224 Highly flammable liquid and vapour. H320 Causes skin and eye irritation.
3734-33-6	223-095-2	<20ppm	Denatonium benzoate	H302 Harmful if swallowed. H315 Causes skin irritation H319 Causes serious eye irritation. H335 May cause respiratory irritation.

## **Section 4: First Aid Measures**

### **4.1 Description of first aid measures**

#### **General notes**

**Following inhalation:** Seek medical attention if fluid is inhaled. No medical attention necessary if just vapour from fluid is inhaled. However, if headache, nausea or drowsiness occurs, go to fresh air.

**Following skin contact:** Wash with soap and water

**Following eye contact:** Rinse eye with slow flowing cool water for 1 minute, or with eye wash according to eye wash instructions.  
If skin rash or eye irritation persist, get medical attention and show them product packaging.

**Following ingestion:** do not induce vomiting.  
Drink water or alkaline drink to dilute. Avoid driving due to the alcohol affect of this product.  
Consult doctor or poison centre if consumed by a child.

**Self-protection of the first aider:** Take normal, reasonable precautions.

#### **Precautionary phrases**

P101	If medical advice is needed, have product container or label at hand.
P103	Read label before use
P273	Avoid release to the environment* *Unless 100 meters from bodies of water.
P391	Collect spillage** **If less than 100 meters from a river, stream, sea, ocean or other water bodies.
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge.
P270	Do not eat drink or smoke when using this product
P280	Wear protective neoprene or latex gloves and suitable eye protection when using.
P302 + P352	If on skin wash with soap and water
P333 + P313 + P337	If skin rash or eye irritation persist: Get medical attention and show them packaging.
P362	Take off contaminated clothing and wash it before re-use.
P303+P361+P353	If on skin or hair take off immediately all contaminated clothing and wash skin with soap and water.

### **4.2 Most important symptoms and effects**

The affect of consuming this product is similar to that of consuming alcohol in vast quantities. It is not recommended.

May cause liver damage.

### **4.3 Indication of any immediate medical attention and special treatment needed**

See section 4.1 above.

## **Section 5: Firefighting measures**

### **5.1 Extinguishing media**

Use foam or CO<sub>2</sub> to extinguish.

(Water is not recommended as this product floats on top of water. Water sprayed at a large quantity of Agent Apple on fire could result in a similar affect to a chip pan fire, with ignited fluid splashing and causing harm.)

### **5.2 Special hazards arising from the substance or mixture**

Water can be used to extinguish fire but only where the product is spread thin over a flatish surface. If there is a large quantity of product in a vessel, water should not be used as the product is lighter than water, and the water would go to the bottom of the vessel, burn and cause hazardous flashing.

However, this is an unlikely situation as the product comes in container less than 1 litre in volume.

Foam and CO<sub>2</sub> are the preferred extinguishing medium.

### **5.3 Advice or fire-fighters.**

Product is fully biodegradable

Agent Apple contains Limonene which should not be allowed to directly enter rivers. Product will usually evaporate from hard surfaces or soil before entering water ways. In waterways product will biodegrade.

## **Section 6: Accidental Release Measures**

### **6.1 Personal precautions, protective equipment and emergency procedures.**

Wear latex, or neoprene gloves when using.

#### **6.1.1 For non-emergency personnel**

Protective gloves should be worn whilst clearing up the spill.

Remove sources of ignition – for example a gas fire or lit cigarettes. Also open windows for ventilation if spilled in large quantities indoors.

#### **6.1.2 For emergency responders**

No special precautions required

### **6.2 Environmental precautions:**

If spilt in vast quantities, use sand or soil to absorb.

If 100 meters from river in soil, product will evaporate or absorb into soil then evaporate and will not reach waterway

Biodegradable and not environmentally hazardous in normal use.

## **6.3: Methods and material for containment and cleaning up**

### **6.3.1 For containment:**

Generally a consumer may spill up to 200ml or 300ml from a single bottle.  
This advice is only relevant if a large number of bottles are damaged, and a vast quantity of product spilled:

Bunding, soil or sand may be used to contain a spill.

### **6.3.2 For cleaning up:**

For containment:

Neutralising techniques: Use water, sand or soil

Decontamination techniques: Use soap and water to remove from skin.

Use water to wash away from roads.

Absorbent materials: sand or soil

For cleaning up:

Product will evaporate within 24 hours in most circumstances.

Vacuuming techniques: Product should not be sucked up with a vacuum cleaner, unless dry and mixed with sand.

Clothing should be washed with normal washing powder after contamination.

## **Section 7: Handling and storage**

### **7.1.1**

Wear latex, or neoprene gloves when using.

Avoid pouring directly into rivers. Harmful to aquatic life due to d-limonene content. Though sourced from orange peel and biodegradable, d-limonene can be harmful to aquatic life.

### **7.1.2**

Advice on general occupational hygiene:

Do not smoke whilst using this product.

### **7.2.1**

Store with lid tightly secured.

### **7.2.2**

Keep away from: Heat sources, ignition sources, oxidizing agents, (strong) acids

### **7.3**

Specific end uses: See instructions on bottle and section 1.2.

## Section 8: Exposure controls/ personal protection

### 8.1 Control parameters

#### 8.1.1.1-4 National exposure limits for hazardous substances within the mixture:

Substance: Bio-Ethanol CAS: 64-17-5					
	Limit value- Eight hours		Limit value – short term		
Country	ppm	Mg/ m3	ppm	Mg/m3	Legal basis
Australia	1000	1880	None	None	Set by Safe Work Australia
Austria	1000	1900	2000	3800	Set by the OEL Regulation "Grenzwerteverordnung"
Belgium	1000	1907	None	None	VLEP/GWBB
Canada – Ontario	Not available	Not available	1000	Not available	Based on Quebec VEA laws
Canada – Québec	1000	1880	Not available	Not available	Set by Quebec Commission for Occupational Health and Safety (Commission de la santé et de la sécurité du travail – CSST)
Denmark	1000	1000	2000	3800	Danish law
Finland	1000	1900	1300 (1)	2500 (1)	Finish law
France	1000	1900	5000	9500	French Labour Ministry
Germany (AGS)	500	960	1000 (1)	1920(1)	German Committee on Hazardous Substances Ausschuss für Gefahrstoffe (AGS)
Germany (DFG)	500	960	1000 (1)	1920 (1)	DFG Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (MAK Commission)
Hungary	Not available	1900	Not available	7600	Set by Hungarian Institute of Occupational Health (HIOH – OMF); department of the NFSZ – Nemzeti Foglalkoztatási Szolgálat (Nemzeti Munkaügyi Hivatal)) And largely based on EU limits
Ireland	Not available	Not available	1000	Not available	Based on UK Law
Latvia	Not available	1000	Not available	Not available	Latvian law
New Zealand	1000	1880	Not available	Not available	Based on New Zealand law
Poland	Not available	1900	Not available	Not available	Set by the Interdepartmental Commission for Maximum Admissible Concentrations and Intensities for Agents Harmful to Health in the Working Environment (Międzyresortowa Komisja do Spraw Najwyższych Dopuszczalnych Stężeń i Natężeń Czynników Szkodliwych dla Zdrowia w Środowisku Pracy)
Singapore	1000	1880	Not available	Not available	Set in Singapore law
South Korea	1000	1900	Not available	Not available	Set in Korean law
Spain	Not available	Not available	1000	1910	Set by National Institute of Safety and Hygiene at Work (in Spanish: Instituto Nacional de Seguridad e Higiene en el Trabajo – INSHT).
Sweden	500	1000	1000(1)	1900(1)	Set in Swedish law
Switzerland	500	900	1000	1920	Set by the Swiss Accident Insurance Fund
Netherlands	Not available	260	Not available	1900	Set in Dutch law
USA – Noish	1000	1900	Not available	Not available	Set by National Institute for Occupational Safety and Health
USA – OSHA	1000	1900	Not available	Not available	Set by Occupational Safety & Health Administration (OSHA)
United Kingdom	1000	1980	Not available	Not available	Set by UK Health and Safety Executive
<b>Remarks:</b>					
Finland	(1) 15 Minutes average value				
Germany (AGS)	(1) 15 Minutes average value				
Germany (DFG)	(1) 15 Minutes average value				
Ireland	(1) 15 Minute reference period				
Sweden	(1) Short-term value, 15 minutes average value				



<b>Substance: d-Limonene</b>					
<b>CAS: 5989-27-5</b>					
	<b>Limit value- Eight hours</b>		<b>Limit value – short term</b>		
<b>Country</b>	<b>ppm</b>	<b>Mg/ m3</b>	<b>ppm</b>	<b>Mg/m3</b>	<b>Legal basis</b>
Finland	25	140	50 (1)	280 (1)	Finnish law
<u>Germany (AGS)</u>	5	28	20 (1)	110 (1)	German Committee on Hazardous Substances Ausschuss für Gefahrstoffe (AGS)
<u>Germany (DFG)</u>	5	28	20 (1)	112 (1)	DFG Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (MAK Commission)
<u>Switzerland</u>	20	110	40	220	Set by the Swiss Accident Insurance Fund
<b>Remarks:</b>					
Finland	(1) 15 Minutes average value				
Germany (AGS)	(1) 15 Minutes average value				
Germany (DFG)	(1) 15 Minutes average value				

<b>Substance: Methyl ethyl ketone</b>					
<b>CAS: 78-93-3</b>					
	<b>Limit value- Eight hours</b>		<b>Limit value – short term</b>		
<b>Country</b>	<b>ppm</b>	<b>Mg/ m3</b>	<b>ppm</b>	<b>Mg/m3</b>	<b>Legal basis</b>
Australia	150	445	300	890	Set by Safe Work Australia
Austria	100	295	200	590	Set by the OEL Regulation "Grenzwerteverordnung"
Belgium	200	600	300	900	VLEP/GWBB
Canada – Ontario	200	-	300	-	Based on Quebec VEA laws
Canada – Québec	50	150	100	300	Set by Quebec Commission for Occupational Health and Safety (Commission de la santé et de la sécurité du travail – CSST)
Denmark	50	145	100	290	Danish law
Finland	-	-	100 (1)	300 (1)	Finish law
France	<b>200</b>	<b>600</b>	<b>300</b>	<b>900</b>	French Labour Ministry
Germany (AGS)	200	600	200 (1)	600 (1)	German Committee on Hazardous Substances Ausschuss für Gefahrstoffe (AGS)
Germany (DFG)	200	600	200	600	DFG Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (MAK Commission)
Hungary	-	600	200 (1)	600 (1)	Set by Hungarian Institute of Occupational Health (HIOH – OMF); department of the NFSZ – Nemzeti Foglalkoztatási Szolgálat (Nemzeti Munkaügyi Hivatal)) And largely based on EU limits
Ireland	200	600	300 (1)	900(1)	Based on UK Law
Japan	200	-	-	-	Japanes Ministry of Health, Labour and Welfare.
Latvia	67	200	300 (1)	900 (1)	Latvian law
New Zealand	150	445	300	890	Based on New Zealand law
People's Republic of China		300		600 (1)	Chinese law
Poland	-	450		900	Set by the Interdepartmental Commission for Maximum Admissible Concentrations and Intensities for Agents Harmful to Health in the Working Environment (Miedzyresortowa Komisja do Spraw Najwyższych Dopuszczalnych Steżeń i Natężeń Czynników Szkodliwych dla Zdrowia w Środowisku Pracy)
Singapore	200	590	300	885	Set in Singapore law
South Korea	200	590	300	885	Set in Korean law
Spain	200	600	300	900	Set by National Institute of Safety and Hygiene at Work (in Spanish: Instituto Nacional de Seguridad e Higiene en el Trabajo – INSHT).
Sweden	50	150	100 (1)	300 (1)	Set in Swedish law
Switzerland	200	590	200	590	Set by the Swiss Accident Insurance Fund
Netherlands	200	590	300	900	Set in Dutch law and EU law
USA – Noish	200	590	300 (1)	885 (1)	Set by National Institute for Occupational Safety and Health
USA – OSHA	200	590	-	-	Set by Occupational Safety & Health Administration (OSHA)
United Kingdom	200	600	300	899	Set by UK Health and Safety Executive
<b>Remarks:</b>					
Finland	(1) 15 minutes average value				
France	Bold type restrictive statutory value limits				
Germany (AGS)	(1) 15 minutes average value				
Germany (DFG)	STV 15 minutes average value				
Ireland	(1) 15 minutes reference period				
Latvia	(1) 15 minutes average value				
People's Republic of China	(1) 15 minutes average value				
Sweden	(1) Short-term value, 15 minutes average value				
USA – NIOSH	(1) 15 minutes average value				

**Substance: Denatonium benzoate**

**CAS: 3734-33-6**

No limits set by any country.

Used in extremely small quantities (around 10 parts to million) to create a bitter taste.

**8.1.1.2 Occupational exposure limit values for Carcinogens and Mutagen content**  
**Directive 2004/37/EC**

Not applicable as the formula does not contain any 1 a or 1b carcinogens listed in (EC) No 1272/2008, or any 1a or 1b mutagens listed in (EC) No 1272/2008.

**8.1.1.3 Any other occupational exposure limit values.**

None other than those listed elsewhere in this safety data sheet.

**8.1.1.4 National Biological limit values that correspond to Union Biological limit values**  
**in accordance with Directive 98/24/EC**

See sections 8.1.1 und 8.1.1.1 und 8.1.1.5

**8.1.1.5 Any other national biological limit values:**

*MAK and BAT values for Germany:*

**MAK Values for Ethanol content:**

**ml/m3 (ppm):** 500

**mg/m3:** 960

**Peak Limitation:** II (2)

**H;S:** None

**Carcinogen Category:** 5

**Pregnancy Risk group:** C

**Germ cell mutagen category:** 5

**Vapour pressure in hPa at 20°C:** 59

**BAT Values:** none

**MAK Values of d-Limonene content:**

**ml/m3 (ppm):** 5

**mg/m3:** 28

**Peak limitation:** II (4)

**H;S:** H Sh

**Carcinogen category:** none

**Pregnancy risk group:** C

**Germ cell mutagen category:** none

**Vapour pressure in hPa at 20°C:** no data

**BAT Values:** none

**8.1.2 Recommended monitoring procedures:** Not applicable

**8.1.3 Air contaminants:** No air contaminants are formed, see tables in: 8.1.1.1

**8.1.4 Derived No Effect Levels (ENEL/DMEL) Table (DNELs)**

<b>Substance: Bio-Ethanol</b>								
<b>CAS: 64-17-5</b>								
	<b>Workers</b>				<b>Consumers</b>			
Route of exposure	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effects local	Acute effects systemic	Chronic effects Local	Chronic effects systemic
Oral	Not required					Hazard identified but no	Hazard identified but no DNEL	Hazard identified but no DNEL available

						DNEL available	available	
Inhalation	1900mg/m <sup>3</sup>	1.900 mg/m <sup>3</sup>	Hazard identified but no DNEL available	950 mg/kg	950 mg/m <sup>3</sup>	Hazard identified but no DNEL available	Hazard identified but no DNEL available	Hazard identified but no DNEL available
Dermal	Hazard identified but no DNEL available	Hazard identified but no DNEL available	Hazard identified but no DNEL available	343mg/kg bw/day	Hazard identified but no DNEL available	Hazard identified but no DNEL available	Hazard identified but no DNEL available	206 mg /kg

Substance: d-Limonene CAS: 5989-27-5								
	Workers				Consumers			
Route of exposure	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effects local	Acute effects systemic	Chronic effects Local	Chronic effects systemic
Oral	Not required					Hazard identified but no DNEL	4.76 mg /kg bw/day	Hazard identified but no DNEL
Inhalation	No hazard identified	No hazard identified	No hazard identified	33.3 mg /m <sup>3</sup>	No hazard identified	No hazard identified	8.33 mg /m <sup>3</sup>	8.33 mg/m <sup>3</sup>
Dermal	222 µg/c m <sup>2</sup>	Hazard identified but no DNEL	Hazard identified but no DNEL	Hazard identified but no DNEL	111 µ g/cm <sup>2</sup>	Hazard identified but no DNEL	Hazard identified but no DNEL	Hazard identified but no DNEL

Substance: Methyl ethyl ketone CAS: 78-93-3								
	Workers				Consumers			
Route of exposure	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effects local	Acute effects systemic	Chronic effects Local	Chronic effects systemic
Oral	Not required					No hazard identified	No hazard identified	31 mg/kg bw/day
Inhalation	No hazard identified	No hazard identified	No hazard identified	600 mg/m <sup>3</sup>	No hazard identified	No hazard identified	No hazard identified	106 mg/m <sup>3</sup>
Dermal	No hazard identified	No hazard identified	No hazard identified	1 161 mg/kg bw/day	No hazard identified	No hazard identified	No hazard identified	412 mg/kg bw/day

Substance: Denatonium benzoate CAS: 3734-33-6								
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	Workers				Consumers			
Route of exposure	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effects local	Acute effects systemic	Chronic effects Local	Chronic effects systemic
Oral	Not required					No hazard identified	No hazard identified	2.233 mg/kg bw/day
Inhalation	No hazard identified	No hazard identified	No hazard identified	15.748 mg/m <sup>3</sup>	No hazard identified	No hazard identified	No hazard identified	3.883 mg/m <sup>3</sup>
Dermal	No hazard identified	No hazard identified	No hazard identified	8.932 mg/kg bw/day	No hazard identified <sup>2</sup>	No hazard identified	No hazard identified	4.466 mg/kg bw/day

## PNEC Levels

### Bioethanol:

Environmental protection target	PNEC
Fresh Water	960 µg/L
Fresh water sediments	3.6 mg/kg sediment dw
Marine water	790 µg/L
Marine sediments	2.9 mg/kg sediment dw
Food chain	No hazard identified
Microorganisms in sewage treatment	39.5 g/L
Soil (agriculture)	0.63 mg/kg soil dw
Air	No hazard identified

### d-Limonene

Environmental protection target	PNEC
Fresh Water	5.4 µg/L
Fresh water sediments	1.32 mg/kg sediment dw
Marine water	540 ng/L
Marine sediments	130 µg/kg sediment dw
Food chain	No hazard identified
Microorganisms in sewage treatment	EC50 (3 h) 209 mg/L
Soil (agriculture)	262 µg/kg soil dw
Air	No hazard identified

### Methyl ethyl ketone

Environmental protection target	PNEC
Fresh Water	55.8 mg/L
Fresh water sediments	284.74 mg/kg sediment dw
Marine water	55.8 mg/L
Marine sediments	284.7 mg/kg sediment dw
Food chain	No hazard identified
Microorganisms in sewage treatment	709 mg/L
Soil (agriculture)	22.5 mg/kg soil dw
Air	No hazard identified

### Denatonium benzoate

Environmental protection target	PNEC
Fresh Water	100 µg/L
Fresh water sediments	33.692 mg/kg sediment dw
Marine water	10 µg/L
Marine sediments	3.369 mg/kg sediment dw
Food chain	No hazard identified
Micro organisms in sewage treatment	51.158 mg/L
Soil (agriculture)	16.127 mg/kg soil dw

## 8.2 Exposure Controls

### 8.2.1 Appropriate engineering controls

No specific engineering controls are required

### 8.2.2 Individual protection measures, such as personal protective equipment.

Wear latex, or neoprene gloves when using.

Do not smoke whilst using this product.

#### 8.2.2.1 Personal protective equipment for fire control

See section 5.

#### 8.2.2.2. Protection equipment:

(a) **Eye protection:** Safety glasses or goggles may be worn to inhibit contact with eyes.

(b) **Hand protection:** Wear latex, or neoprene gloves when using. Neoprene gloves of to standard ASTM D 6319 is sufficient. Thickness of 250 Micron recommended.

(c) **Respiratory protection:** Not required

(d) **Thermal hazards:**

No thermal hazards present except in the case of fire.

### 8.2.3 Environmental exposure controls

Subsequent advice: Avoid pouring Agent Apple Extreme Degreaser directly into rivers and water ways.

Due to d-Limonene orange peel extract content, classed as toxic to aquatic life with long lasting effects.

D-Limonene is biodegradable within 28 days, and has low mobility in soil. Spillage 10 meters from a river is unlikely to cause any harm.  
Limonene volatilises from a water way in 3.4 hours.

The reason for the 'Toxic to aquatic life with long lasting effects' categorisation is that limonene can be absorbed by fish and harm them.

Here is an extract from the UN Document, *LIMONENE*:

When released to ground, limonene is expected to have low to very low mobility in soil, based on its physical/chemical properties. The soil adsorption coefficient ( $K_{oc}$ ), calculated on the basis of the solubility (13.8 mg/litre at 25°C) and the log octanol/water partition coefficient (4.232), ranges from 1030 to 4780.<sup>3</sup> The Henry's law constant indicates that limonene will rapidly volatilize from both dry and moist soil; however, its strong adsorption to soil may slow this process.<sup>3</sup> In the aquatic environment, limonene is expected to adsorb to sediment and suspended organic matter and to rapidly volatilize to the atmosphere, based on its physical/chemical properties.<sup>3</sup> The estimated half-life for volatilization of limonene from a model river (1 m deep, flow 1 m/s, and wind speed 3 m/s) is 3.4 hours.<sup>3</sup>

<sup>3</sup> Source: Hazardous Substances Data Bank. Bethesda, MD, National Library of Medicine (1995).

Above taken from: Page.6 Dr Filipsson *et al*, *Concise International Chemical Assessment Document 5, LIMONENE*. Geneva: World Health Organization.)

## Section 9: Physical and chemical properties

### 9.1 Information on the basic physical and chemical properties.

- (a) **Appearance:** Water like clear liquid
- (b) **Odour:** Strong alcoholic scent with sweet citrus hint
- (c) **Odour threshold:** No information available
- (d) **pH:** 5
- (e) **Melting point/ freezing point:** -104°C
- (f) **Initial boiling point and boiling range:** 102.5 -102.65°C
- (g) **Flash point:** 24.75°C
- (h) **Evaporation rate:** 0.01
- (i) **Flammability (solid, gas):** Flammable as liquid and gas.
- (j) **Flammability limits**  
**Upper:** No data available  
**Lower:** No data available
- (k) **Vapour pressure:** 4.99 kPa (at 25°C)
- (l) **Vapour density:** 2.3
- (m) **Relative density:** 0.802 (at 20°C)
- (n) **Solubility(ies):** Partially soluble in water. Miscible with alcohol
- (o) **Partition Coefficient: n-octanol /water:** Not available
- (p) **Auto-ignition temperature:** 401.27°C
- (q) **Decomposition temperature:** Not available
- (r) **Viscosity:** 1.2036 mPa's
- (s) **Explosive properties:**  
**Upper Explosion limit (UEL) (at 150°C):** 16.63%  
**Lower Explosion limited (LEL) (at 150°C):** 2.88%
- (t) **Oxidising properties:** Does not meet the criteria for classification as oxidising.

## 9.2 Other information

Agent Apple Extreme Degreaser is a solvent of oil.  
(Breaks down oils and greases of various types, organic and petrochemical)

## **Section 10: Stability and Reactivity**

### 10.1 Reactivity

Keep away from heat and sources of ignition.

Hazardous decomposition products include carbon dioxide, carbon monoxide and possibly other unidentified organic compounds.

### 10.2 Chemical stability

Under storage at normal ambient temperatures (minus 40°C to + 40°C), the product is stable.

Normal shelf life tested: 3 years in enclosed bottle.

### 10.3 Possibility of hazardous reactions

Materials to avoid: Strong oxidizing agents; inorganic acids, and halogens.  
Keep away from heat and sources of ignition.

### 10.4 Conditions to avoid

Heat flames, sparks, and static discharge.  
(Static discharge an unlikely source of ignition for the vapour only)

### 10.5 Incompatible materials

Strong oxidizing agents; inorganic acids, and halogens.

### 10.6 Hazardous decomposition products

Hazardous decomposition products from combustion only, include carbon dioxide, carbon monoxide and possibly other unidentified organic compounds.

Flammable vapour through evaporation is produced when exposed to air.

Product is fully biodegradable producing carbon, CO<sub>2</sub>, and minerals which can be absorbed by plants, excluding Denotonium benzoate at less than 10ppm.

Denatonium benzoate is a completely non-hazardous, non toxic, environmentally safe material. It is safe for human consumption and not harmful in the environment. It is used to 'denature' the alcohol by making it taste too bitter to drink. This stop's children drinking the product, which would make them extremely drunk. It also negates the need to charge alcohol duty – denatured alcohol which is not for human consumption is exempt.

## **11: Toxicological information**

### 11.1 Information on toxicological effects

**(a) Acute toxicity;** Consuming this product at more than 10-12 grams per day will not cause liver cirrhosis. OSHA Category 5. May be harmful if swallowed.

Acute toxicity estimate: 2,340 mg/kg  
Method: Calculation based on substances in mixture.

Acute toxicity estimate: 5,000 mg/kg  
Method: Calculation based on substances in mixture.

**(b) Skin irritation;** Irritating to eyes. Can cause skin irritation through skin drying and dermatitis.

**(c) Eye irritation;** Not corrosive. Not considered to be corrosive for metals and glass.

**(d) Sensitisation;** Sensitizer on some skin types. Can cause dryness of skin with repeated exposure to skin through defatening.

**(e) Germ cell mutagenicity;** not a mutagen.

**(f) Carcinogenicity;** Not more carcinogenic than any alcohol, though more potent than alcoholic drinks designed for consumption due to bioethanol content.  
For the genotoxic carcinogenic effects, the total internal exposure\*\* is the relevant exposure estimate. The total internal exposure (or AUC) after drinking one glass of beer is comparable with the AUC after eight hour exposure to 1900 mg/m<sup>3</sup> ethanol.  
A healthy subject is considered to metabolize between 6 and 9 g ethanol per hour. This product is not for human consumption but poses a minimal carcogenicity risk.



Effect on development of offspring and possible cirrhosis of the liver. However, consuming this product at less than 10-12 grams per day will not cause liver cirrhosis. Even long term oral exposure to levels of 1-12 gram ethanol per day might result in effects on the development (like increased incidence of spontaneous abortion, foetal death, pre-term delivery and decreased length of gestation) and fertility, according to the Committee on Alcohol consumption and reproduction.

Category 5 Carcinogen in Germany only, due to the bioethanol content.

**(g) Reproductive toxicity;** Effect on development of offspring and possible cirrhosis of the liver. Long term oral exposure to levels of 1-12 gram ethanol per day might result in effects on the development of foetus (like increased incidence of spontaneous abortion, foetal death, pre-term delivery and decreased length of gestation) and fertility, according to the Committee on Alcohol consumption and Reproduction. This is due to ethanol being an alcohol. Alcohol should not be consumed during pregnancy. This product is not for human consumption.

**(h) STOT Single Exposure;** See sections (f) and (g) above foetal and liver impact. Product is not for drinking. Only exposure risk is through drinking.

**(i) STOT-Repeated Exposure;** no data available. See sections (f) and (g) above foetal and liver impact. Product is not for drinking. Only exposure risk is through drinking. Nauseous sensation and possible vomiting, the same affect as consuming alcohol if consumed.

**(j) Aspiration hazard;** not an aspirational hazard.

## **Section 12: Ecological information**

### **12.1 Toxicity:**

Toxic to:

Algae aquatic plants

Crustacea

Low potential to affect aquatic organisms and secondary waste treatment organisms.

LC50 (Trout) 96 hours 13,000 mg/l

LC50 (P. Promelas (fathead minnow)) 96 hours 15,300 mg/l

LC50 (Goldfish) 8 hours 250 ppm

### **12.2 Persistence and degradability**

Readily biodegradable – 20 days in sewage and freshwater.

Readily biodegradable, not biopersistent. Floats on top of water, disperses and evaporates.

Unlikely therefore to make direct contact with aquatic life.

### **12.3 Bio accumulative potential**

No bioaccumulation, except for bio accumulate in fish. However, this would be destroyed during digestion further up the food chain. Does not bio-accumulate in food chain.

**12.4 Mobility in soil.** Not mobile in soil. Volatilises rapidly, low potential for mobility in soil. Will rapidly volatilize from both dry and moist soil.

### **12.5 Results of PBT and vPvB assessment:**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**12.6 Other adverse affects:** No petrochemical ozone creation potential, ozone depletion potential, endocrine disrupting potential or global warming potential applies to this product

## **SDS Section 13: Disposal considerations**

### **13.1 Waste treatment methods**

#### **13.1.1 Product packaging disposal:**

Bottle recyclable made from recyclable aluminum, including cap. Small amount of no-recyclable plastic in cap can be removed with a screwdriver. Label is polypropylene and will burn off cleanly during recycling process.

Bottle material code:



#### **13.1.2 Waste treatment-relevant information:**

Fluid can be disposed of in sealed bottle to land fill, or in an industrial or home composting facility as the formula is biodegradable.

Agent Apple Extreme Degreaser is a re-usable fluid. If used only to degrease Green Oil products from your bike, and the product is poured back into the bottle, then the contents will be fully biodegradable and compostable. However, if the fluid contains petrochemical or PTFE lube components, it should not be composted and sewage disposal is discouraged.

**13.1.3 Sewage disposal-relevant information:** Product can be disposed of with normal sewage, though due to the d-limonene (orange peel extract content) should not enter normal sewage drains which may be outlet to rivers where fish may be affected (UK sewers for example often 'over flow' into water courses during peak times).

#### **13.1.4 Other disposal recommendations:**

Always follow local government, national and federal regulations where applicable.

## **Section 14: Transport Information**

### **14.1 UN Number**

Ethanol content: UN 1170

Covered by 'Limited Quantity' rules. As packaging is less than 1 litre (each bottle is 100ml), Dangerous Goods rules do not apply.

Limonene is not covered by the UN Dangerous Goods List,

Limonene is classed by IMDG as a marine pollutant.

Limonene is not a IATA pollutant.

Other ingredients in small quantities are exempt.

### **14.2 UN Proper shipping name for hazardous content:**

Ethanol

### **14.3 Transport hazard category:**

Class 3 Flammable

### **14.4 Packing group:**

Packing group II (Limited quantity)

### **14.5 Environmental hazards**

None

## 14.6 Special precautions for user

None

## 14.7 Transport in bulk according to Annex II of MARBOL 73/78 and the IBC Code:

Not applicable. Product sent in limited quantity bottles, not in IBC (1000 litre) vessels

## 14.8 Additional information

Class 3 Hazardous

## Section 15: Regulatory information

This safety data sheet complies with United Nations Globally Harmonised System of Classification and Labelling of Chemicals, OSHA and CLP Regulation (EC) No 1272/2008 (which replaces the Dangerous Substances Directive 1999/45/EC) and REACH EC No 1907/2006.

This Safety Data Sheet also complies with OSHA in the USA and local national laws aligned with United Nations GHS (Globally Harmonized System of Classification and Labelling of Chemicals).

None of the substances within this mixture are Substances of Very High Concern (SVHCs) within Reach.

This product, nor the contents are covered or restriction by Regulation (EC) No 649/2012, or Regulation (EC) No 1005/2009 on ozone layer depletion.

### **Section 15.1:**

Safety, health and environmental regulations specifically for substance or mixture.

#### **Deutschland:**

Wassergefährdungsklassen: *WGK 1*

#### **France:**

Aucun ingrédient avec le produit sont en taleaux de maladies professionnelles (<http://www.inrs-mp.fr/>)

#### **Neederland:**

Only ethanol is in the Lijst van kankerverwekkende, mutagene, en voor de voortplanting giftige stoffen SZW.

Ethanol:

Fertility: 1

Development: 1

Breast feeding: NA

## **15.2 Chemical Safety Assessment**

Chemical Safety Assessments have been carried out for all hazardous parts of this mixture and this safety data sheet and data within is based upon these.

No Volatile Organic Compounds (VOCs) are produced by this product.

#### **USA OSHA Hazards :**

Combustible Liquid, Moderate skin irritant, Moderate eye irritant

#### **EPCRA - Emergency Planning and Community Right-to-Know Act**

This data sheet may be used within plans created in accordance with EPCRA.

#### **CERCLA Reportable Quantity.**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards:** Fire Hazard Acute Health Hazard

**SARA 302 :** SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313:** SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. Clean Water Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. Clean Water Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307.

**US State Regulations**

**Massachusetts Right To Know Act.** No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know**

**Bioethanol:** CAS number: 64-17-5 0-75%

**D-Limonene:** CAS number: 5989-27-5 0-25%

**Methyl ethyl ketone:** CAS number: 78-93-3 <1% ppm

**Denatonium benzoate:** CAS number: 3734-33-6 <20ppm

**California Prop 65:**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. The components of this product are reported in the following inventories:

**United States TSCA Inventory :**

Bioethanol: y (positive listing) (On TSCA Inventory)

d-Limonene: y (positive listing) (On TSCA Inventory)

**Canadian Domestic Substances List (DSL):**

All substances in this product are included in the Canadian Domestic Substance List, the list of all chemicals manufactured in or imported into Canada.



## **Section 16: Other Information**

16.1 This revised Safety Data Sheet was published on Published 1<sup>st</sup> June 2015 in compliance with CLP Regulation (EC) No 1272/2008 in accordance with Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Changes include:

(a) Additional information provision

**(b) Acronyms.**

MSDS = Material Safety Data Sheet.

SDS = Safety Data Sheet.

GHS = Globally Harmonized System of Classification and Labelling of Chemicals.

(c) References: \*Page.6 Dr Filipsson *et al*, *Concise International Chemical Assessment Document 5, LIMONENE*. Geneva: World Health Organization.

(d) Methodology for this Safety Data Sheet is in accordance with EC No 1972/2008. Many figures have been obtained and calculated from Safety Data Sheets of Each substance. EHCA (European Chemicals Agency) databases have been utilized, along with those of the US Environmental Protection Agency, the Canadian Government and the British Health and Safety Executive. This list is not exhaustive.

Classification procedure for all Hazard Phrases for all substances, and by that, this product according to Regulation (EC) Nr. 1272/2008 is based on data and of the European Chemicals Agency and expert judgement.

**Disclaimer:**

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.