Safety Data Sheet

In accordance with Safe Work Australia

Effective Date: 18 January 2017

1. Product identifier & identity for the chemical

Product Identifier	**Biochlor 500 Grain Protectant**
Active Constituent	**Chlorpyrifos-Methyl 500.0 g/L** **Hydrocarbon Liquid 513.0 g/L**
Other means of Identification	Agricultural Insecticide Grow Choice product code number: 2004 20 AVPMA registered number: 60650
Recommended use of the chemical and restrictions on due	For the control of insect pests in stored grain (except rice and malting barley) and lupins; and on surfaces of buildings and equipment as specified in the Directions For Use Table.
Suppliers name, address and phone number:	Grow Choice Pty Ltd 113 Fitzroy Street | TAMWORTH NSW 2340 Phone: 02 6766 3979 1800 817 676 Fax: 02 6766 2922 | Email: admiin@growchoice.com.au
Emergency phone number:	In Case Of Emergency Dial 000
Poisons Information Centre	Phone: 13 11 26 and speak to a Poisons Information Specialist. Fax: +61 2 9845 3597 http://www.chw.edu.au/poisons/contact.htm

2. Hazard Identification (continued on page 2)

- Classified as **HAZARDOUS** in accordance with the *Approved Criteria for Classifying Hazardous Substances* [NOHSC: 1008(2004] *3rd Edition* and the Globally Harmonized System of Classification and Labelling of Chemicals (the GHS).
- Considered **DANGEROUS** for road and rail transport by the Australian Code for the Transport of Dangerous Goods Road and Rail (August 2014 edition), but as it is classified as a C1 Combustible Liquid, the product must be stored and handled as specified in AS 1940 "the storage and handling of flammable and combustible liquids".
- Considered **DANGEROUS** for transport by sea and air in accordance with the IMDG Code 37-14 (refer Section 14)

Summary of Hazardous Identifications	IMDG UN number: **UN 3082** Poisons Schedule number: **S6**
Classification of the hazardous chemical	Category 4: **Flammable liquids** Category 2 **Skin corrosion/irritation** Category 1 **Serious eye damage/eye irritation** Sub-category 1B **Skin sensitisation** Category 3 **Specific target organ toxicity - single exposure** Category 1 **Aspiration hazard** Category 1 **Acute aquatic toxicity** Category 1 **Chronic aquatic toxicity**
GHS symbol	Chronic Health Hazard Corrosive Health Hazard Environmental 
Signal word	**DANDGER**
General Precautionary Statements.	If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use
Hazard Statements	Combustible liquid. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause drowsiness or dizziness. Very toxic to aquatic life with long lasting effects.
Prevention Statements	**Keep away from heat/sparks/open flames/hot surfaces.** **No smoking.** **Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.** **Avoid release to the environment.** **Wear protective gloves/ eye protection/ face protection.**
Response Statements	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/ physician.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/ physician.
Do NOT induce vomiting.
If skin irritation or rash occurs: Get medical advice/ attention.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage Statements

Store Locked up.
Store in a dry place. Store in a closed container.
Store in a well-ventilated place. Keep cool.
Refer Section 7

Disposal Statements

P501: **Dispose of contents and container in accordance with local, regional and national regulations**.

3. Composition/information on ingredients

Chemical ingredients: CAS number and other unique identifiers: Concentration of ingredients:	**Component**	**CAS No**	**Proportion**
	Chlorpyrifos-Methyl	5598-13-0	500 g/L
	Hydrocarbon Liquid	64742-94-5	513 g/L

4. First Aid Measures

Swallow

If swallowed, **DO NOT** induce vomiting. Rinse mouth out with water if patient is conscious. Seek urgent medical attention.

Eye:

If product gets in eyes, remove contact lenses if wearing and wash it out immediately with water for several minutes. Seek medical attention.

Skin:

Remove contaminated clothing and wash affected areas thoroughly with soap and water. Seek medical attention if concerned.

Inhaled

Move affected person to fresh air and keep at rest until recovered. If inhaled remove to fresh air and keep at rest. Obtain medical advice if at all worried. If not breathing give artificial respiration and get medical attention as soon as possible.

Medical Attention and Special Treatment

In Case Of Emergency Dial 000 and/or Poisons Information Centre: Phone: 13 11 26 and speak to a Poisons Information Specialist with a copy of this SDS or chemical Label.

5. Fire Fighting Measures

Suitable extinguishing media

Water fog, carbon dioxide, dry chemical or foam.

Specific hazards arising from the chemical

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition, which may be toxic and/or irritating. Combustion products may include and are not limited to: Sulphur oxides. Phosphorous compounds. Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

Special protective equipment and precautions for fire fighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves).
Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant firefighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.
The product may emit toxic fumes of hydrogen chloride or phosgene if involved in fires or exposed to extreme heat. Fire fighters should wear Safe Work Australia approved self-contained breathing apparatus (AS/NZS 1715/1716) and full protective gear. Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of extinguishing agent and spillage safely later. Contamination of water bodies should be avoided.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

In case of spillage it is important to take all steps necessary to:
Instruct and ensure all bystanders to keep away from and upwind of spill/leak.
Avoid eye and skin contact;
Do not breath dust;
Ensure adequate ventilation;

Environmental precautions

Avoid contamination of waterways.
Refer to Section 8 for Personal Protection Equipment (PPE).

Methods and materials for containment and cleaning up

Reposition any leaking containers so as to minimise leakage.
Dam and absorb spill with an absorbent material (eg sand or soil) or proprietary absorbent such as vermiculite.
Shovel the absorbed spill into drums.

Collect in a suitable, closed container to dispose and clean the spilled area with water.

7. Handling and Storage (continued on page 3)

Precautions for safe handling

Safe work practices are recommended.
Avoid contact with eyes and skin.
When opening the container and preparing spray wear appropriate PPE (refer Section 8).
Do not spray under high wind conditions.
Hygiene measures:
When using products, do not eat, drink or smoke.
Contaminated work clothing should not be allowed out of the workplace.
Wash hands thoroughly with soap and water after use and before eating, drinking, smoking/using tobacco, chewing gum, using the toilet or applying cosmetics.
After each day's use, wash gloves, face shield or goggles and contaminated clothing.
Avoid contact with eyes and skin.

Conditions for safe storage, including any incompatibilities:	Keep out of reach of children, unauthorised persons and animals. Store in tightly sealed original containers in a dry secure place away from fertilizers, feed and food. Store out of direct sunlight and extreme temperature. Always read the label and any attached leaflet before use.

8. Exposure controls/personal protection

Control parameters – exposure standards, biological monitoring	SWA Exposure Limits TWA (mg/m3) STEL (mg/m3)
Appropriate engineering controls	No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems. Ventilation: This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan. **Eye Protection:** Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used. **Skin Protection**: Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types. Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC. **Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary. **Eyebaths or eyewash** stations and safety deluge showers should be provided near to where this product is being used. Control process conditions to avoid contact. Use in a well-ventilated area only. Use local exhaust ventilation to keep exposure levels below the exposure limits above. Keep stored in original container in a cool, well ventilated area, keeping the lid closed at all-times whilst in storage.
Personal protective equipment (PPE)	When opening the container, preparing the spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length PVC chemical resistant and face shield or goggles. When using the prepared spray cotton overalls buttoned to the neck and wrist and a washable hat and optional once chemical is prepared for use, elbow length PVC chemical resistant and face shield or goggles if protected from spray drift/contamination. **Face and Eye Protection**: Face shield or goggles. **Clothing**: Cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat. **Gloves**: Elbow-length chemical resistant PVC gloves. **Respiratory**: If airborne concentrations are likely to exceed the exposure standards above or if exposed to dust, an AS/NZS 1715/1716 approved respirator should be worn. Recommended to use Australian and New Zealand Standard PPE: Overalls AS 3765, Clothing for protection against Hazardous chemicals Gloves: AS/NZS 2161, Industrial safety gloves and mittens (not electrical and medical gloves) Goggles and face shield As/NZS 1337, Eye protectors for industrial applications. Footwear AS/NZS 2210, Occupational protective footwear Respirators AS NZS 1715 Selection, Use and Maintenance of Respiratory Protective Devices AS/NZS 1716, Respiratory Protective Devices
Requirements Concerning Training	Check State and/or Territory regulations that require people who use pesticides in their job or business to have adequate training in the application of the materials.

9. Physical and chemical properties

Appearance, form, colour and odour	Clear, straw coloured liquid with an unpleasant mercaptan odour.
pH (1% deion. Water);	No data
Melting point	No data
Boiling point	No data
Flash point	Closed cup >60.5 ℃
Evaporation rate	No data
Flammability	No data
Vapour pressure	No data
Liquid density	1.13 g/cm3 at 20 °C Pycnometer
Solubility in water	Emulsifiable
Auto-ignition temperature	446 °C at 102.7 kPa 92/69/EEC A15 Ramped Temperature
Decomposition temperature	No data
Viscosity	No data

10. Stability and Reactivity (continued on page 4)

Chemical stability	Product is unstable at elevated temperatures.
Conditions to avoid	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid static discharge. Avoid direct sunlight.
Incompatible materials and possible hazardous reactions	Avoid contact with Bases and Oxidizers.
Hazardous decomposition products	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to:

Carbon monoxide. Carbon dioxide. Hydrogen chloride. Organic sulphides. Sulphur dioxide. Toxic gases are released during decomposition. Hazardous polymerization is not possible.

11. Toxicological information

Local Effects:
Target Organs: There is no data to hand indicating any particular target organs.
Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Aromatic Hydrocarbons	Conc>=10%: Xn; R65
Chlorpyrifos-methyl	Conc>=1

Inhalation
Acute inhalation toxicity
Prolonged excessive exposure may cause adverse effects. Excessive exposure may cause irritation to upper respiratory tract (nose and throat). May cause central nervous system effects.
As product:
LC50, Rat, male and female, 4 Hour, dust/mist, > 6.654 mg/l

Ingestion
Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.
As product:
LD50, Rat, male, > 2,000 mg/kg
As product:
LD50, Rat, female, 3,162 mg/kg
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Skin
Prolonged skin contact is unlikely to result in absorption of harmful amounts.
As product:
LD50, Rabbit, male and female, > 5,000 mg/kg
Skin corrosion/irritation
Brief contact may cause slight skin irritation with local redness.
May cause drying and flaking of the skin.
Effects may be slow to heal.

Eye
May cause moderate eye irritation, which may be slow to heal.
May cause slight corneal injury.
May cause permanent impairment of vision, even blindness.
Sensitization
Has caused allergic skin reactions when tested in guinea pigs.

Aspiration Hazard
May be fatal if swallowed and enters airways

Reproductive
For similar active ingredient(s). Chlorpyrifos did not interfere with fertility in reproduction studies in laboratory animals. Some evidence of toxicity to the offspring occurred, but only at a dose high enough to produce significant toxicity to the parent animals. For the solvent(s): In animal studies, did not interfere with reproduction.

Toxicity
Specific Target Organ Systemic Toxicity (Repeated Exposure)
For the active ingredient(s):
Excessive exposure may produce organophosphate type cholinesterase inhibition.
Signs and symptoms of excessive exposure to active ingredient may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions.
In animals, effects have been reported on the following organs:
Adrenal gland.
Liver.
For the solvent(s):
Excessive exposure to solvent(s) may cause respiratory irritation and central nervous system depression.
For the minor component(s):
In animals, effects have been reported on the following organs: Respiratory tract.
Carcinogenicity
Active ingredient did not cause cancer in laboratory animals.
Contains naphthalene, which has caused cancer in some laboratory animals. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.
Teratogenicity
For the active ingredient(s): High doses fed to pregnant mice resulted in an increase in cleft palate, a common developmental abnormality in mice. No abnormalities have been observed in other species under similar test conditions. For the solvent(s): Did not cause birth defects or any other foetal effects in laboratory animals.

Mutagenicity
For the active ingredient(s): In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.
For the solvent(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Data limitations
Exposure limits have not been established by SWA for any of the significant ingredients in this product. The ADI for Chlorpyrifos-methyl is set at 0.01mg/kg/day. The corresponding NOEL is set at 0.1mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, June 2014.

12. Ecological information (continued on page 5)

This product is very toxic to aquatic organisms.
This product is toxic to bees.
This product is biodegradable.
It will not accumulate in the soil or water or cause long term problems.

Birds: LD50 chicken: >7950mg/kg LD50 mallard: 2500-5000mg/kg
Fish: LC50 rainbow trout (Oncorhynchus mykiss): 0.3mg/L
Bees: LD50 0.38µg/bee Daphnia: EC50 0.016-0.025mg/L

13. Disposal considerations

Disposal of product
On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

Disposal of Container
Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, puncture or shred and bury containers in local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

14. Transport information

General Transport Information It is considered good practice not to transport agricultural chemical products with food, food related materials and animal feed products.

Land Considered **DANGEROUS** for road and rail transport by the Australian Code for the Transport of Dangerous Goods Road and Rail (August 2014 edition)

Sea and Air Considered **DANGEROUS** for transport by sea and air in accordance with the IMDG Code 37-14

ADG

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Chlorpyrifos-Methyl)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Chlorpyrifos-Methyl

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Chlorpyrifos-Methyl)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Chlorpyrifos-Methyl
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(Chlorpyrifos-Methyl)
UN number	UN 3082
Class	9
Packing group	III

15. Regulatory information

Poisons Schedule number — Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) – Poison Schedule:

16. Other information

Date of Review — This Safety Data Sheet (SDS) was completed 18 January 2017

Acronyms:

AVPMA: Australian Pesticides and Veterinary Medicines Authority.
GHS: Globally Harmonised system of Classification and Labelling of chemicals
HSIS: Hazardous Substances Information System
NOHSC: National Occupational Health and Safety Commission
CAS No.: unique numerical identifier assigned by Chemical Abstracts Service (division of the American Chemical Society)
STEL Exposure standard - short term exposure limit.
AS/NZS: Australian Standards and New Zealand Standards for Personal protective equipment
ADI: Acceptable Daily Intakes For Agricultural And Veterinary Chemicals
ADG: Australian Dangerous Goods
IMDG: International Maritime Code of Dangerous Goods
IATA: International Air Transport Association

End of SDS