SAFETY DATA SHEET
PRODUCTION AGRISCIENCE (AUSTRALIA) PTY LTD

Product name: Vydate® L Insecticide / Nematicide **Issue Date:** 14.09.2021

PRODUCTION AGRISCIENCE (AUSTRALIA) PTY LTD encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container.

SECTION 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product name: Vydate® L Insecticide / Nematicide

Recommended use of the chemical and restrictions on use
Identified uses: End use insecticide / nematicide product

COMPANY IDENTIFICATION
PRODUCTION AGRISCIENCE (AUSTRALIA) PTY LTD
LEVEL 9, 67 ALBERT AVENUE
CHATSWOOD NSW 2067
AUSTRALIA

Customer Information Number: 1800-700-096
aucustomerservice@corteva.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: +61 2 9474 7350
Local Emergency Contact: 1800-370-754
For advice, contact a doctor (at once) or the Australian Poisons Information Centre: 131 126
Transport Emergency Only Dial 000

SECTION 2: HAZARD(S) IDENTIFICATION

GHS Classification
Flammable liquids – category 3
Acute toxicity (Oral) – category 2
Acute toxicity (Inhalation) – category 2
Serious eye damage/eye irritation – category 2A
Short-term (acute) aquatic hazard - Category 2
Long-term (chronic) aquatic hazard - Category 2
Endpoints which are not classified, cannot be classified or are not applicable, are not shown.

GHS label elements
Hazard pictograms

Signal word: **DANGER!**

Hazard statements
Flammable liquid and vapour.
Fatal if swallowed or if inhaled.
Causes serious eye irritation.
Toxic to aquatic life with long lasting effects.

Precautionary statements
Prevention
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical / ventilating / lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe fumes / vapours / spray
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.
Wear respiratory protection.

Response
IF SWALLOWED: Immediately call a POINSON CENTRE or doctor / physician.
Rinse mouth.
IF ON SKIN (or hair): Remove contaminated clothing. Rinse skin with plenty of water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Immediately call a POISON CENTRE or doctor/ physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Collect spillage.

Disposal
Store locked up. Store in a well-ventilated place. Keep cool. Keep container tightly closed.
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
No data available

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

This product is a mixture.

Component	CASRN	Concentration
Oxamyl	23135-22-0	23.1 %
Cyclohexanone	108-94-1	10 – 15 %
Balance	Not available	61.9 – 66.9 %

SECTION 4: FIRST AID MEASURES

Description of first aid measures
General advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. If poisoning occurs, contact a doctor or Poisons Information Centre. In Australia 13 11 26.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. In case of skin contact, wash off immediately with plenty of water. Call a poison control center or doctor for treatment advice.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

Ingestion: If swallowed, call a poison control center or doctor immediately. If swallowed ingest activated charcoal. Induce vomiting if person is conscious. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Poisoning produces effects associated with anticholinesterase activity which may include: Weakness, Blurred vision, Breathing difficulties, Nausea, Headache, Abdominal pain, Discomfort in the chest, Constriction of pupils, Slow pulse, Sweating, Muscle twitching. Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Administer atropine sulphate as an antidote until complete atropinisation (1.2-2.0 mg i.v. every 10-30 minutes). Artificial respiration and/or oxygen may be necessary. Allow no further exposure to any cholinesterase inhibitor until full recovery is assured.
This product is an acetyl cholinesterase inhibiting carbamate insecticide. Morphine therapy is contra-indicated.

SECTION 5: FIREFIGHTING MEASURES

Hazchem code: •3W

Suitable extinguishing media: Water spray, Dry chemical, Foam (alcohol resistant foam preferred).

Unsuitable extinguishing media: High volume water jet, (contamination risk)

Special hazards arising from the substance or mixture
Hazardous combustion products:

Unusual Fire and Explosion Hazards: Vapours may form explosive mixtures with air.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
On small fires: If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/ tanks with water spray.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire-fighting clothing (includes fire-fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible.
Small spills: Neutralize with solid sodium hydroxide at a rate of 360 grams per litre spilled. Soak up with sawdust, sand, oil dry or other absorbent material. Sweep up and shovel into suitable containers for disposal. Never return to container for re-use. Scoop into bags or boxes with plastic or aluminium shovel. Never return spills in original containers for re-use. Dispose of in accordance with local regulations. See Section 13, Disposal Considerations, for additional information.
Large spills: Contact Corteva Agriscience for clean-up assistance.

SECTION 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

Precautions for safe handling: Keep out of reach of children. Keep away from heat and sources of ignition. Do not swallow. Avoid contact with eyes, skin, and clothing. Do not breathe vapour or spray mist. Use with adequate ventilation. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before re-use. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store product in original container only, away from other pesticides, fertilizer, food or feed. Store in a well-ventilated area away from heat and sunlight. Keep out of the reach of children. Store locked up. DO NOT store for prolonged periods in direct sunlight.
Storage period: Storage temperature: > 0 °C

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value / Notation
Cyclohexanone	AU OEL	TWA	25 ppm 100 mg/m3 Can be absorbed through skin
	ACGIH	TWA	20 ppm
	ACGIH	STEL	50 ppm Can be absorbed through skin

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.
Exposure limits have not been established for those substances listed in the composition, if any have been disclosed.

Exposure controls
Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures
Eye/face protection: Use chemical goggles.
Skin protection
Hand protection: Use elbow length chemical resistant gloves classified under standard AS/NZS 2161.10: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to AS/NZS 2161.10) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.
Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.
The following should be effective types of air-purifying respirators: Half mask with a particle filter conforming to AS/NZS 1715 & AS/NZS 1716.

Other Information: Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:
AS/NZS 1336: Eye and face protection – Guidelines.
AS/NZS 1337: Personal eye protection - Eye and face protectors for occupational applications.
AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.
AS/NZS 2161: Occupational protective gloves.
AS/NZS 2210: Occupational protective footwear.
AS/NZS 4501: Occupational protective clothing Set

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid
Colour	Dark green
Odour	Aromatic
Odour Threshold	No information available
pH	3.0
Melting point/range	Not applicable
Freezing point	No information available
Boiling point (760 mmHg)	No information available
Flash point	51.7 °C
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	No test data available
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapour Pressure	No information available
Relative Vapour Density (air = 1)	No information available
Relative Density (water = 1)	No information available
Water solubility	Miscible
Partition coefficient: n-octanol/water	No information available
Auto-ignition temperature	No information available
Decomposition temperature	No information available
Kinematic Viscosity	No information available
Explosive properties	No test data available
Oxidizing properties	No information available
Density	1.059 g/cm3
Molecular weight	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: No information available

Chemical stability: Stable at normal use temperatures and storage conditions.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Conditions to avoid: No information available.

Incompatible materials: Hydrolyses in presence of: Strong acids and strong bases.

Hazardous decomposition products: Decomposition will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
As product: LD50, Rat, male and female, 9.1 mg/kg
Method: US EPA Test Guideline OPP 81-1
Information source: Internal study report

Acute dermal toxicity
As product: LD50, rat > 5,000 mg/kg

Acute inhalation toxicity
As product: LC50/4 h/Rat male and female (dust/mist): 0.11 mg/l
Method: US EPA Test Guideline OPP 81-3.
Information given is based on data obtained from similar product

Skin corrosion/irritation
As product:
Species: Rabbit
Result: No skin irritation.
Method: US EPA Test Guideline OPP 81-5.
Information source: Internal study report.

Serious eye damage/eye irritation
As product:
Species: Rabbit
Result: Severe eye irritation
Method: US EPA Test Guideline OPP 81-4.
Information source: Internal study report.

Respiratory or skin sensitisation
As product:
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant. Cholinesterase inhibition.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
For the active ingredient: Oxamyl. Repeated dose toxicity: Ingestion/Rat 24 Months: No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification. Reduced body weight gain, cholinesterase inhibition

Skin contact/Rabbit 21 d: No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification
Method: US EPA Test Guideline OPP 82-2

For cyclohexanone. Repeated dose toxicity: Ingestion/Rat 90 d
NOAEL: 143 mg/kg
LOAEL: 407 mg/kg
Method: OECD Test Guideline 408
No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification. Adverse body weight effects

Carcinogenicity
For active ingredient. Oxamyl. Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.
For cyclohexanone. Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.

Reproductive toxicity
For active ingredient. Oxamyl. Reproductive toxicity: Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity. No effects on or via lactation
Teratogenicity: Animal testing showed effects on embryo-foetal development at levels equal to or above those causing maternal toxicity.

For cyclohexanone. Reproductive toxicity: No toxicity to reproduction. Evidence suggests the substance is not a reproductive toxin in animals. No effects on or via lactation
Teratogenicity: Animal testing showed no developmental toxicity

Mutagenicity
For active ingredient. Oxamyl. Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
For cyclohexanone. Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Aspiration Hazard
The mixture does not have properties associated with aspiration hazard potential.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Ecotoxicity

Acute and prolonged toxicity to fish
For active ingredient. Oxamyl. LC50/96 h/Oncorhynchus mykiss (rainbow trout): 3.13 mg/l. Method: OECD Test Guideline 203
For cyclohexanone. LC50/96 h/Pimephales promelas (fathead minnow): 527 mg/l

Chronic toxicity to fish
For active ingredient. Oxamyl. NOEC/29 d/Cyprinodon variegatus (sheepshead minnow): 0.356 mg/l. Method: OECD Test Guideline 210
NOEC/61 d/Oncorhynchus mykiss (rainbow trout): 0.77 mg/l

Acute toxicity to aquatic invertebrates
For active ingredient. Oxamyl. EC50/48 h/Daphnia pulex (Water flea): 0.08 mg/l
Method: OECD Test Guideline 202

For cyclohexanone. EC50/48 h/Daphnia magna (Water flea): 800 mg/l

Chronic toxicity to aquatic invertebrates
For active ingredient. Oxamyl. NOEC/28 d/Americamysis bahia (mysid shrimp): 0.0189 mg/l

Acute toxicity to algae/aquatic plants
As product. ErC50/48 h/Pseudokirchneriella subcapitata (green algae): 6.5 mg/l

Persistence and degradability
Oxamyl. Result: Not biodegradable
Cyclohexanone. Result: Biodegradable

Bioaccumulative potential
No information available.

Mobility in Soil
No information available

Other adverse effects
See product label for additional application instructions relating to environmental precautions.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: Do not re-use empty containers.
Triple or preferably pressure rinse containers before disposal. Add rinsing's to spray tank. DO NOT dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture, and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm 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.

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

This product when disposed of in its unused and uncontaminated state should be treated as a hazardous waste.

SECTION 14: TRANSPORT INFORMATION

ADG

Proper shipping name	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE (Oxamyl, Cyclohexanone)
UN number	UN 2991
Class	6.1 (3)
Packing group	II
Marine pollutant	Oxamyl

Classification for SEA transport (IMO-IMDG):

Proper shipping name	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE (Oxamyl, Cyclohexanone)
UN number	UN 2991
Class	6.1 (3)
Packing group	II
Marine pollutant	Oxamyl
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	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE (Oxamyl, Cyclohexanone)
UN number	UN 2991
Class	6.1 (3)
Packing group	II

Hazchem code: •3W

Further information:
Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the Australian Code for the Transport of Dangerous Goods (ADG). This applies when transported by road or rail in packaging's that do not incorporate a receptacle exceeding 500 kg(L) or IBCs per ADG Special Provision AU01.

Marine Pollutants in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code and IATA special provision A197.

This information is not intended to convey all specific regulatory or operational requirements/ information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

Poison Schedule: S7
APVMA Approval Number: 33297

SECTION 16: ANY OTHER RELEVANT INFORMATION

Revision
Identification Number: / A143 / Issue Date14.09.2021 / Replaces: 03.04.2020
Sections amended: All

Full text of other abbreviations
AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

PRODUCTION AGRISCIENCE (AUSTRALIA) PTY LTD urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other

than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.