



Safety Data Sheet

DICTATE - Reg. No: L 9858 (Act No 36 of 1947) Namibian Reg. No. N-AR 2145

Date of issue: 15/05/2014

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1) IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER.	
Product name:	DICTATE
Other means of identification:	Dimethoate 400 g/L EC
UN number:	3017
Recommended use:	Insecticide
Restrictions on use:	Agriculture
Distributed by:	MERIDIAN AGRITECH P O BOX 436 MODDERFONTEIN TEL 011 8228509 FAX 0866901386 MOBILE: 0834006056 www.agritech.co.za
Emergency Number:	POISON CENTRE (UNITAS HOSPITAL) 012 664 1100 WESTERN CAPE POISONS TELEPHONE SERVICE 0861 555 777 RAPID SPILL RESPONSE 0800 775 3305 GRIFFON POISON CENTRE: 082 446 8946
Chemical Name:	O,O-dimethyl S-methylcarbamoylmethyl phosphorodithioate; 2-dimethoxyphosphinothioylthio-N-methylacetamide
2) Classification of the substance / mixture:	
Classification of the product:	R10, R20/21/22, R 51/53 S1/2, S3/9/49, S13, S16 S17, S18, S20/21, S23 S24/25, S26, S27, S28, S36/37/39, S61 Xn F N Full text of symbols and R-phrases: see section 15.
Label elements:	   Danger Flammable Health hazard Xn – Harmful N – Dangerous for the Environment F – Highly Flammable
Health effects: eyes:	May cause irritation
Health effects: skin:	Highly toxic, contact with skin may be fatal
Health effects: ingestion	May be harmful

Health effects: inhalation				May be harmful	
Health effects: Other				No data available	
3) COMPOSITION / INFORMATION ON INGREDIENTS:					
Mixture:					
Chemical name	% composition	CAS No.	EC No.	Classification according to Regulation EC 1272/2008 (CLP)	Classification according to 67/548/EEC
Dimethoate	40	60-51-5	200-480-3	Acute Tox. 4: H301 Acute Tox. 3: H311 Acute Tox. 4: H312 Acute Tox. 4: H317 Acute Tox. 4: H332 Acute Tox. 4: H411	T+, N, Xn R21, 25, 26, 50/53 S1/2, S28, S36/37, S38, S45, S60, S61
Methanol	3.0	67-56-1	200-659	Flam. Liq. 2: H225 Acute Tox. 3: H301 Acute Tox. 3: H311 Acute Tox. 3: H331 STOT SE: H370	No data available
Benzene	34.0	71-43-2	200-753-7	Flam. Liq. 2: H225 Skin Irrit. 2: H315 Eye Irrit. 2: H319 Asp. Tox. 1: H304 Muta. 1B: H340 Carc. 1A: H350 STOT RE: H372	No data available
Full text of R- and S-phrases: see section 15.					
4) First Aid Measures:					
Eye contact:			Flush eyes with plenty of flowing, clean and cool water or saline solution for at least 15 minutes holding eyelids open. Remove contact lenses if present after the first 5 minutes. Seek medical attention immediately. Obtain medical attention immediately if irritation persists.		
Skin contact:			Immediately remove contaminated clothing and flush body and clothes with large amounts of water for at least 15 - 20 minutes. Wash gently and thoroughly with a non-abrasive soap and water (including hair, skin and fingernails) Wash contaminated clothing before re-use. Seek medical attention immediately. Persons providing first aid must wear gloves to avoid self-contamination. Persons who become sensitised may require specialised medical management with anti-inflammatory agents.		
Ingestion:			Rinse mouth immediately and thoroughly with water is patient is alert. Seek medical attention immediately. Do not induce vomiting. Never induce vomiting or give anything by mouth to a victim who is unconscious or is having convulsions.		
Inhalation:			Remove victim to fresh air. Keep patient calm, warm an at rest. Supply oxygen if necessary. Treat symptomatically and supportively. Seek medical attention immediately.		
Most important symptoms and effects, acute and delayed:			None known		
Indication of immediate medical attention and special treatment needed: Advice to physician			Main hazard: This compound inhibits cholinesterase enzyme activity in the nervous tissue and is highly toxic. Contact with skin, inhalation of spray, or swallowing may be fatal. Symptoms of exposure to the product include: nausea, headache, tiredness, giddiness, blurred vision and papillary constriction. Depending on the severity of poisoning, these		

symptoms become worse with the onset of vomiting, abdominal pain, diarrhoea, sweating and salivation.

Confusion, ataxia, slurred speech, loss of reflexes are some of the central nervous system effects that may lead to misdiagnosis of acute alcoholism.

After **inhalation of vapours or aerosols** effects appear within minutes: ocular and respiratory effects generally appear first. These include marked meiosis, ocular pain, conjunctival congestion, diminished vision, ciliary spasm and brow ache.

With **acute systemic absorption**, meiosis may not be evident due to systemic absorption; meiosis may not be evident due to sympathetic discharge in response to hypertension.

In addition to rhinorea and hyperaemia of the upper respiratory tract, respiratory effects consist of "tightness" in the chest and wheezing respiration caused by the combination of bronchoconstriction and increased bronchial secretion.

Gastrointestinal symptoms occur earliest after ingestion and may include anorexia, nausea, vomiting, abdominal cramps, and diarrhoea.

With **percutaneous absorption** of liquid, localized sweating and muscular fasciculation in the immediate vicinity are generally the earliest manifestation.

Severe intoxication is manifested by extreme salivation, involuntary defecation and urination, sweating, lacrimation, penile erection, bradycardia and hypotension.

The airway should be kept clear to maintain respiration, particularly when the patient is unconscious or has vomited. The mouth and pharynx should be cleared and dentures removed. The jaw should be supported and the patient placed in a face down position with the head down and turned to one side, with the tongue drawn forward.

First aid should include, if necessary, mouth-to-nose respiration, cardiac massage and avoidance of injury in patients with trauma.

Atropine must be administered as early as possible and could save lives, if given in time and in an adequate dosage. Patients with organophosphate poisoning need amounts of atropine far in excess of doses usually employed in medical practice. The therapeutic objective is to achieve atropinisation, as evidenced by pupil dilation, drying secretion, pulse rate over 120 beats per minute and flushing skin. In order to prevent gastrointestinal absorption in the unconscious that have swallowed this product, perform stomach lavage using bicarbonate solution and activated charcoal.

In less severe cases, begin with 2 mg atropine intravenously for adults or 0.05 mg atropine / kg body weight intravenously for children under 12 years and repeat administration of the drug at 15 to 30 minutes intervals.

In **severe cases** a total atropine dose of 20 to 80 mg in the first hour may be necessary, with repeated drug administrations at 3 to 10 minute intervals. When signs of atropinisation appear, the dose and frequency of administration should be reduced to a schedule that will maintain full atropinisation for at least 24 hours. Over dosage of atropine is rarely serious, however under dosage may prove fatal in cases of poisoning with organophosphorous compounds.

In any severe progressive case of poisoning a

	<p>cholinesterase reactivator e.g. pralidoxime (2PAM), if available, should be administered, preferably within 8 hours after intoxication. An average dose is 1 g for an adult (up to 50 mg/kg for children), usually given half as a single intramuscular or intravenous injection and the other half as an intravenous injection and the other half as an intravenous infusion with glucose and / or saline. In severe cases, this treatment may be repeated in 1 – 2 hours, then at 10 – 12 hour intervals if needed, but not beyond 24 hours, or 48 hours at the most. Pralidoxime should be administered very slowly. If respiration is depressed during / after pralidoxime injection, pulmonary ventilation should be assisted mechanically.</p> <p>Toxogonin is a more recent cholinesterase reactivator, It can be administered instead of 2PAM at a dosage of 250 mg intramuscularly for adults (4 – 8 mg/kg for children) and, if necessary, repeated after 1 – 2 hours.</p> <p>Diazepam should be included in the therapy of severe cases and whenever convulsions appear. Dosages of 5 – 10 mg for adults (2 – 5 mg for children) can be administered intravenously or subcutaneously or per rectum, and repeated as required.</p> <p>NB As a result of their respiratory-depressant effects, morphine and similar drugs are contraindicated for patients poisoned with organophosphorous compounds. Avoid aminoglycosides and succinylcholine, which have a blocking effect on the neuromuscular junction.</p> <p>Phenothiazines, reserpine and theophylline are contraindicated in organophosphorous poisoning.</p>
5) Fire-Fighting Measures:	
Suitable extinguishing media:	Use foam, carbon dioxide, dry extinguishing media, carbon dioxide fire extinguishers.
Unsuitable extinguishing media:	Avoid the use of a solid water stream as this may cause spreading.
Special hazards arising from the substance or mixture:	Product may generate poisonous or irritating mists (hydrogen sulphide, carbon oxides) or other products of combustion during a fire.
Fire-fighting:	<p>Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal.</p> <p>Generating poisonous and corrosive fumes. Keep upwind. Water spray can be used for cooling of unaffected stock, but avoid water coming into contact with the product. Contain water for later disposal.</p> <p>Eliminate ignition sources.</p> <p>Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk.</p> <p>Do not scatter the material. Dispose of extinguishing agent and spillage in a safe way at a later stage.</p> <p>Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. Contain run-off water with, for example, temporary earth barriers.</p>
Protective clothing:	Full protective clothing and self-contained breathing apparatus
6) Accidental Release Measures:	

<p>Personal precautions:</p> <p>Environmental precautions:</p> <p>Cleaning procedure:</p> <p>Disposal:</p>	<p>Isolate the area. For personal protection see Section 8. Keep personnel out of low areas, keep upwind. Do not inhale vapours.</p> <p>Do not contaminate waterways, drains and groundwater. Heavily contaminated soil layers should be removed and disposed of in an approved way. If contamination of waterways, drains, rivers or lakes is unavoidable, warn the local authorities (Police and Department of Water/Environmental affairs) immediately.</p> <p>Do not eat, drink or smoke during the clean up process. Clear area of unprotected personnel. Ventilate the area of the spill. Eliminate all sources of ignition. Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately. If the product contaminates public waters, inform the appropriate authorities immediately in accordance with local regulations.</p> <p>For small spillages: Soak up with a suitable absorbent material (sand, sawdust, kieselguhr, general-purpose binder). Place into clearly marked, sealable containers for subsequent disposal.</p> <p>For large spillages: Contact the manufacturer. Contain the liquid far ahead of the spill. Contain the spillage and contaminated water for subsequent disposal. Do not flush the spilled material into drains. Keep spectators away and upwind.</p> <p>Waste Disposal:</p> <p>Any contaminated absorbents, surplus product etc. should be disposed of by incineration (>1000°C) with effluent gas scrubbing. NEVER pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into the water systems. Comply with local legislation applying to waste disposal.</p> <p>Container Disposal: Refer to the product label for instructions.</p> <p>If containers cannot be recycled, they should be disposed of together with the waste chemical</p> <p>Do not reuse empty containers. Empty container retain vapour and product residues. Triple rinse, or equivalent, empty container, return rinse water to dilution mixture, and dispose of dilution mixture as a hazardous waste if it cannot be disposed of by use according to label instructions. Dispose of empty containers in accordance with local regulations. Combustible containers should be disposed of in pesticide incinerators. Non-combustible containers must be triple-rinsed with water and then punctured and transported to a facility for recycling or disposal in an approved landfill site. Consult the provincial environment ministry for advice on waste disposal. Industrial/commercial waste may be handled at licensed facilities only. Waste shipments must be securely packaged and properly labelled. Only licensed carriers should be used.</p>
<p>7) Handling & Storage:</p>	

Handling:	<p>KEEP OUT OF REACH OF CHILDREN and animals.</p> <p>Keep away from heat, sparks and flame. Avoid breathing vapour or mist. Avoid contact with eyes, skin and clothing. Do not swallow. Keep the container closed. Use with adequate ventilation.</p> <p>Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. After work, rinse gloves and remove protective equipment. Wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, chewing gum or using the toilet.</p> <p>Wash contaminated clothing before re-use and separate from household laundry. Remove clothing immediately if the product gets inside. Then wash skin thoroughly with a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. The water used to clean equipment must be disposed of correctly in order avoid contamination.</p>
Storage:	<p>Store in original container only in an isolated, well-ventilated, cool (avoid temperatures above 40°C), dry, secure area away from unauthorised people, children, foods and animal feeds. Avoid cross contamination with other pesticides and fertilizers. Product hydrolyses rapidly in aqueous alkaline solutions. Store away from incompatible substances. Not to be stores next to foodstuffs as well as water supplies. Ensure that the local regulations are complied with. Keep under lock and key.</p>
8) Exposure Control / Personal Protection:	
<p>It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.</p> <p><u>PERSONAL PROTECTIVE EQUIPMENT:</u></p> <p>Clothing:</p> <p>Gloves:</p> <p>Eye protection:</p> <p>Respiratory protection:</p> <p>Emergency eye wash:</p>	<p>Consult supplier to confirm that the equipment is suitable.</p> <p>Appropriate protective (impervious) clothing and equipment in order to prevent skin contact with the product.</p> <p>Use appropriate, chemically resistant protective gloves.</p> <p>Splash-proof safety goggles or face shield.</p> <p>An approved full-face respirator suitable for protection against mists of pesticides is required. The limitations of the respirator use as specified by the approving agency and the manufacturer must be observed.</p> <p>Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.</p>
9) Physical & Chemical Properties:	
<p>Form:</p> <p>Colour:</p> <p>Odour:</p> <p>Odour threshold:</p>	<p>Liquid</p> <p>Colourless</p> <p>Characteristic</p> <p>No data available</p>

<p>pH:</p> <p>Melting point / Freezing point</p> <p>Initial boiling point and boiling range</p> <p>Flash point:</p> <p>Evaporation rate:</p> <p>Flammability (solid, gas)</p> <p>Upper/ lower flammability or explosive limits:</p> <p>Vapour pressure:</p> <p>Vapour density:</p> <p>Relative density:</p> <p>Solubility(ies)</p> <p>Partition coefficient: n-octanol/water</p> <p>Auto-ignition temperature:</p> <p>Viscosity:</p>	<p>3.0 – 4.0</p> <p>No data available</p> <p>No data available</p> <p>41 - 44°C</p> <p>No data available</p> <p>No data available</p> <p>No data available</p> <p>No data available</p> <p>No data available</p> <p>No data available</p> <p>Emulsifies in water</p> <p>No data available</p> <p>No data available</p> <p>No data available</p>
10) Stability & Reactivity:	
<p>Reactivity:</p> <p>Chemical stability:</p> <p>Hazardous decomposition product(s):</p> <p>Conditions to avoid:</p> <p>Incompatible materials:</p>	<p>No data available.</p> <p>Stable under normal use and standard conditions. Stable for up to 24 months. Avoid exposure to elevated temperatures. This product is decomposed by alkalis and heating.</p> <p>This product undergoes decomposition at high temperatures. Avoid heating above ambient temperature. Toxic fumes that may be released when the product decomposes on heating may include (but are not limited to) hydrogen sulphide, carbon oxides and sulphur oxides.</p> <p>Heat, flames, sparks and other sources of ignition.</p> <p>No data available</p>
11) Toxicological Information:	
<p>Acute:</p> <p>Oral LD50 LD50 for rats 387, mice 160, rabbits 300, guinea pigs 350 mg/kg b.w.</p> <p>Dermal LD50 > 2 000mg/kg, rat</p> <p>Inhalation LC50 (4h): >1.6 mg/l air (highest attainable concentration), rat</p> <p>Skin irritation : Not an irritant, rabbit</p> <p>Eye irritation : Mild irritant, rabbit</p> <p>Sensitisation : Not a Sensitizer (Guinea Pig).</p> <p>Other : No data available.</p>	
12) Ecological Information:	
<p>Information below based on active ingredient:</p> <p>Bees: Not toxic to bees. LD50 (oral and contact, 48 h) >100 µg/bee.</p> <p>Birds: Acute oral LD50 for mallard ducks and bobwhite quail >2000 mg/kg.</p> <p>Fish : LC50 (96 h) for rainbow trout and golden orfe >solubility limit.</p> <p>Algae : EC50 (96 h) for green algae >solubility limit.</p> <p>Worms: LC50 (14 d) for earthworms >1000 mg/kg.</p> <p>Other aquatic species: <i>Daphnia magna</i>, LC50 (48 h) >solubility limit.</p> <p>Environments fate</p>	

Dimethoate degrades with short half-life in plants, soil and water. When used correctly, the exposure of the population through air, food or water is negligible. In mammals, metabolism follows the same pattern as in plants. In plants, the following metabolite transformations occur: oxidation to yield omethoate (q.v.), O-demethylation and N-demethylation of omethoate to yield O-desmethyl N-desmethyl omethoate, hydrolysis of amide bond to give dimethoate carboxylic acid and subsequent degradation to give O,O-dimethyl dithiophosphoric acid, demethylation and rearrangement to yield O-desmethyl dimethoate or O-desmethyl isodimethoate, demethylation of omethoate to give O-desmethyl omethoate and subsequent hydrolysis of the amide bond to give O-desmethyl omethoate carboxylic acid. Omethoate is classified as toxic and a strong cholinesterase inhibitor, and appears to show similar rapid degradation in environmental compartments as dimethoate. Adsorption and desorption constants have been shown to be a linear function of soil silt content. Koc ranges from 16.25 (sandy loam) to 51.88 (sand/loamy sand). Aerobic DT50 2–4.1 d. Photolytic DT50 on soil surface 7–16 d. There is a low potential for leaching to groundwater because of rapid degradation in soil.

13) Disposal Considerations:

Waste Disposal :

Any contaminated absorbents, surplus product etc. should be disposed of by incineration (>1000°C) with effluent gas scrubbing. **NEVER** pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into the water systems. Comply with local legislation applying to waste disposal.

Container Disposal :

If containers cannot be recycled, they should be disposed of together with the waste chemical
Do not reuse empty containers. Empty container retain vapour and product residues. Triple rinse, or equivalent, empty container, return rinse water to dilution mixture, and dispose of dilution mixture as a hazardous waste if it cannot be disposed of by use according to label instructions. Dispose of empty containers in accordance with local regulations. Combustible containers should be disposed of in pesticide incinerators. Non-combustible containers must be triple-rinsed with water and then punctured and transported to a facility for recycling or disposal in an approved landfill site. Consult the provincial environment ministry for advice on waste disposal. Industrial/commercial waste may be handled at licensed facilities only. Waste shipments must be securely packaged and properly labelled. Only licensed carriers should be used.

14) Transportation Information:

UN Number: 3017

Road transport ADR/RID

Class: 6.1

Packaging group: III

Proper shipping name: Organophosphorous pesticide, liquid, toxic, flammable (dimethoate)

Air transport: ICAO / IATA

Class: 6.1

Packaging group: III

Passenger aircraft: 611 (max 60 L)

Y611 (2L)

Cargo aircraft: 618 (Max 220 L)

Proper shipping name: Organophosphorous pesticide, liquid, toxic, flammable (dimethoate)

Maritime transport: IMDG

Class: 6.1

Packaging group: III

Proper shipping name: Organophosphorous pesticide, liquid, toxic, flammable (dimethoate)

15) Regulatory Information:

Symbols: Xn - Harmful

N - Dangerous for the environment

F - Flammable

Risk – Phrase:

R10 - Flammable

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.

R25 - Toxic if swallowed

R26 - Very toxic by inhalation

R 5/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety – Phrase:

S1/2 - Keep locked up and out of the reach of children

S3/9/49 - Keep only in the original container in a cool, well-ventilated place..

S13 - Keep away from food, drink and animal feeding stuffs.

- S16 - Keep away from sources of ignition — No smoking.
- S17 - Keep away from combustible material.
- S18 - Handle and open container with care.
- S20/21 - When using do not eat, drink or smoke.
- S23 - Do not breathe gas/fumes/vapour/spray
- S24/25 - Avoid contact with skin and eyes.
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S27 - Take off immediately all contaminated clothing.
- S28 - After contact with skin, wash immediately with plenty of water and non-abrasive soap.
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
- S38 - Irritating to skin
- S45 - May cause cancer
- S60 - May impair fertility
- S61 - Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Hazard Statements

- H225 - Highly flammable liquid and vapour
- H301 - Toxic if swallowed
- H304 - May be fatal if swallowed and enters airways
- H311 - Toxic in contact with skin
- H312 - Harmful in contact with skin
- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- H331 - Toxic if inhaled
- H332 - Harmful if inhaled
- H340 - May cause genetic defects
- H350 - May cause cancer
- H370 - Causes damage to organs
- H372 - Causes damage to organs through prolonged or repeated exposure
- H411 - Toxic to aquatic life with long-lasting effects

16. Other Information

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.

It is the responsibility of persons in receipt of this SDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with this product. If the recipient subsequently produces formulation(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this SDS to their own SDS.

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