



Material Safety Data Sheets

for Chemical Products

TRADE NAME:

Part No's:

Pellets WF 2015, 2070, 2071, 2072, 2073, 2074, 2075, 2076

Powder DCA95

Chemwatch: 47694

FLEETGUARD - DCA 4 Powder & Pellet

FLEETGUARD DCA4 POWDER & PELLET

ChemWatch Full Report (REVIEW)

CHEMWATCH 47694

Date of Issue: Fri 22-Dec-2000

IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS ACCORDING TO WORKSAFE AUSTRALIA CRITERIA.
CONSIDERED A DANGEROUS SUBSTANCE ACCORDING TO
DIRECTIVE 67/548/EEC, POINT 4; AND TO 29 CFP 1910-1200 (USA).

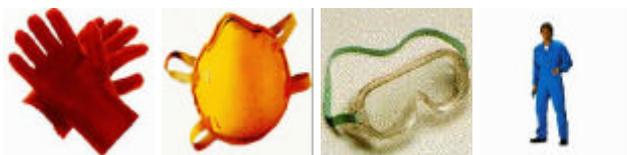
SUPPLIER

Company: Fleetguard
Address:
31 Garden Street
Kilsyth
Victoria 3137
Australia
Telephone: (03) 9721 9100
Emergency Tel: 1800 039 008 - 24 Hour
Fax: (03) 9721 9148

CHEMWATCH HAZARD RATINGS

Flammability: 0 
Toxicity: 3 
Body Contact: 3 
Reactivity: 0 
Chronic: 0 
SCALE: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

PERSONAL PROTECTIVE EQUIPMENT FOR INDUSTRIAL/COMMERCIAL ENVIRONMENTS



TRADE NAMES

Part Number
Pellets WF2015 WF2070 WF2071 WF2072
WF2072 WF2073 WF2074 WF2075 WF2076
Powder DCA95

MATERIAL DETAILS

CAS RN No(s) None
NIOSH No None
POISONS SCHEDULE S5

UN No	None
HAZCHEM	None
DANGEROUS G. CLASS	None
SUB RISK	None
PACKAGING GROUP	None
EPG	None
IMO CLASS	None
IMDG PAGE	None
LABEL	No class label assigned

SHIPPING NAME

NONE

USE

Engine Cooling water corrosion inhibitor treatment. Mix in accordance with supplied directions.

APPEARANCE

Pale blue powder or pellets; soluble in water. Mild alkaline reaction.

PHYSICAL PROPERTIES

Molecular Weight:	Not applicable.
Vapour Pressure(kPa):	Very low
Boiling Range(C):	Not applicable.
Volatile Component(%Vol):	Non Flammable
Melting Range(C):	Not available.
Relative Vapour Density**:	Not applicable.
Specific Gravity*:	1.056
Flash Point(C):	Non Flammable
Water Solubility:	Soluble
Lower Explosive Limit(%):	Not applicable
UpperExplosiveLimit(%):	Not applicable
pH(as supplied):	Not applicable
pH(1% solution):	8.5
Autoignition Temp(C):	Not available.
Evaporation Rate:	Not applicable
Decomposition Temp(C):	Not available.
State:	Divided solid

Legend: * Water=1, ** Air=1

INGREDIENTS

NAME	CAS RN	%
potassium phosphate as		
potassium phosphate, dibasic	7758-11-4	20-40 ^
potassium nitrate	7757-79-1	10-20 ^
sodium nitrite	7632-00-0	5-10 ^
sodium molybdate	7631-95-0	5-10
sodium silicate as		
sodium metasilicate, pentahydrate	10213-79-3	5-10
organic corrosion inhibitors unregulated		10-20
scale inhibitors and surfactants unregulated		2-7
dyes, defoamers unregulated		0.5-2

NOTE: Manufacturer has supplied full ingredient information to allow CHEMWATCH assessment.

SYNONYMS

cooling water inhibitor treatment DCA-95 powder WF-2015 pellet
WF-2070 WF-2071 WF-2072 WF-2073 WF-2074 WF-2075 WF-2076 (as pellets)

HEALTH HAZARD

ACUTE HEALTH EFFECTS

SWALLOWED

Considered an unlikely route of entry in commercial/industrial environments The material is highly discomforting and toxic if swallowed and may be fatal if swallowed in large quantity. Ingestion may result in nausea, abdominal irritation, pain and vomiting. Symptoms of mild poisoning include dizziness, headache, vomiting, shortness of breath and blueness of the lips and skin (cyanosis). Swallowing of a large amount may cause flushed and sweaty skin, nausea, diarrhoea, muscular weakness, fall in blood pressure, collapse, convulsions, coma, respiratory paralysis, and in extreme, circulatory collapse and death.

EYE

The dust may be discomforting to the eyes.

SKIN

The dust may be discomforting to the skin if exposure is prolonged and is capable of causing skin reactions which may lead to dermatitis. Open cuts, abraded or irritated skin should not be exposed to this material. The material may accentuate any pre-existing dermatitis condition.

INHALED

The dust is discomforting to the upper respiratory tract if inhaled.

CHRONIC HEALTH EFFECTS

Principal routes of exposure are usually by skin contact with the material, with the mixed material and inhalation of generated dust. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following. As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

FIRST AID

SWALLOWED

Rinse mouth out with plenty of water.

If poisoning occurs, contact a doctor or Poisons Information Centre.

In Australia phone 13 1126; New Zealand 03 4747000.

If swallowed, do NOT induce vomiting. Give a glass of water.

EYE

If this product comes in contact with the eyes:

1: Immediately hold the eyes open and wash with fresh running water.

- 2: Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- 3: If pain persists or recurs seek medical attention.
- 4: Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If product comes in contact with the skin:

- 1: Immediately remove all contaminated clothing, including footwear (after rinsing with water).
- 2: Wash affected areas thoroughly with water (and soap if available).
- 3: Seek medical attention in event of irritation.

INHALED

- 1: If dust is inhaled, remove to fresh air.
- 2: Encourage patient to blow nose to ensure clear breathing passages.
- 3: Ask patient to rinse mouth with water but to not drink water.
- 4: Seek immediate medical attention. or
- 1: If fumes or combustion products are inhaled: Remove to fresh air.
- 2: Lay patient down. Keep warm and rested.
- 3: Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures
- 4: If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- 5: Transport to hospital, or doctor.

ADVICE TO DOCTOR

The toxicity of nitrates and nitrites result from their vasodilating properties and their propensity to form methaemoglobin.

1. Most produce a peak effect within 30 minutes.
2. Clinical signs of cyanosis appear before other symptoms because of the dark pigmentation of methaemoglobin.
3. Initial attention should be directed towards improving oxygen delivery, with assisted ventilation, if necessary. Hyperbaric oxygen has not demonstrated conclusive benefits.
4. Institute cardiac monitoring, especially in patients with coronary artery or pulmonary disease.
5. Hypotension should respond to Trendelenburg's position and intravenous fluids; otherwise dopamine may be needed.
6. Naloxone, glucose and thiamine should be given if a multiple ingestion is suspected.
7. Decontaminate using Ipecac Syrup for alert patients or lavage for obtunded patients who present within 2-4 hours of ingestion.
8. Symptomatic patients with methaemoglobin levels over 30% should receive methylene blue. (Cyanosis alone, is not an indication for treatment). The usual dose is 1-2 mg/kg of a 1% solution (10 mg/ml) IV over 5 minutes; repeat, using the same dose if symptoms of hypoxia fail to subside within 1 hour.

[Ellenhorn and Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker who has been exposed at the Exposure Standard (ES or TLV):

Determinant	Index	Sampling Time	Comments

1.Methaemoglobin 1.5% of During or B,NS,SQ
in blood haemoglobin end of shift

B: Background levels occur in specimens collected from subjects NOT exposed
NS: Non-specific determinant;also observed after exposure to other materials
SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

unless otherwise specified data extracted from RTECS -
Register of Toxic Effects of Chemical Substances
TOXICITY IRRITATION.

SODIUM MOLYBDATE

Oral rat LD50: 4000 mg/kg
Inhalation rat LC50: >2080 mg/m³/4 hours

SODIUM METASILICATE, PENTAHYDRATE

sodium metasilicate anhydrous:
Oral (rat) LD50: 1153 mg/kg Skin (human): 250 mg/24h SEVERE
Skin (rabbit): 250 mg/24h SEVERE

PRECAUTIONS FOR USE

EXPOSURE STANDARDS

Dusts not otherwise classified, as inspirable dust; ES TWA: 10 mg/m³.

SODIUM MOLYBDATE

molybdenum soluble compounds, as Mo (A.Wt: 95.95)

ES TWA: 5 mg/m³

TLV TWA: 5 mg/m³

NOTICE OF INTENDED CHANGE

TLV TWA 0.5 mg/m³ respirable fraction A3

CAUTION: This substance has been classified by the ACGIH as A3

Animal Carcinogen (at relatively high doses).

OES TWA: 5 mg/m³; STEL: 10 mg/m³

IDLH Level: 1000 mg/m³

An increased incidence of non-specific symptoms including headache, weakness, fatigue, anorexia and joint and muscle weakness has been reported to occur in mining and metallurgy workers exposed to 60-600 mg (as Mo). Some investigators have attributed gout and elevated uric acid concentration found in some Armenians to result from exposures to Armenian soils rich in molybdenum, whilst exposure has been implicated as a cause of bone disease amongst Indians. "These involvements are speculative". [US National Research Council]. As far as it is known, the recommended TLV-TWA incorporates a large margin of safety against potential pulmonary or systemic effects.

SODIUM METASILICATE, PENTAHYDRATE

CEL TWA: 2 mg/m³

[Manufacturer]

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer aided prediction of spray/mist or fume/dust components and concentration :

Composite Exposure Standard for Mixture (TWA): 2.8571 mg/m³.

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be over-exposed.

Component	Breathing Zone Conc. mg/m ³	Mixture Conc. (%)
sodium metasilicate, pentahydrate	1.4286	10.0
sodium molybdate	1.4286	10.0

ENGINEERING CONTROLS

Use in a well-ventilated area 1: Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction. 2: Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace. 3: If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of: (a): particle dust respirators, if necessary, combined with an absorption cartridge; (b): filter respirators with absorption cartridge or canister of the right type; (c): fresh-air hoods or masks 3: Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding. 4: Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting. Provide adequate ventilation in warehouse or closed storage areas.

PERSONAL PROTECTION

EYE

Safety glasses with side shields; or as required, Chemical goggles.
Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

Barrier cream and Wear chemical protective gloves, eg. PVC.
Wear safety footwear.

OTHER

Overalls Eyewash unit.

RESPIRATOR

Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
10 x ES	P1 Air-line*	-	PAPR-P1
50 x ES	Air-line**	P2	PAPR-P2
100 x ES	-	P3 Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information, consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

HANDLING PROCEDURES

- 1: Avoid personal contact and inhalation of dust, mist or vapours.
- 2: Provide adequate ventilation.
- 3: Always wear protective equipment and wash off any spillage from clothing.
- 4: Keep material away from light, heat, flammables or combustibles.
- 5: Keep cool, dry and away from incompatible materials.
- 6: Avoid physical damage to containers.
- 7: Do not repack or return unused portions to original containers.
Withdraw only sufficient amounts for immediate use.
- 8: Contamination can lead to decomposition leading to possible intense heat and fire.

- 9: When handling NEVER smoke, eat or drink.
- 10: Always wash hands with soap and water after handling.
- 11: Use only good occupational work practice.
- 12: Observe manufacturer's storing and handling directions.

CONDITION CONTRIBUTING TO INSTABILITY

Contact with acids liberates toxic gases, nitrogen oxides (NO_x).

- 1: Presence of incompatible materials. 2: Product is considered stable.
- 3: Hazardous polymerisation will not occur.

SAFE HANDLING

STORAGE

SUITABLE CONTAINER

Multi-ply woven plastic or paper bag with sealed plastic liner

NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse.

Lined metal can Lined metal pail/drum Plastic pail Polyliner drum

Packing as recommended by manufacturer.

Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

Segregate from acids and organic materials / compounds particular finely divided combustible materials.

Oxidising agents as a class are not necessarily combustible themselves, but can increase the risk and intensity of fire in many other substances.

STORAGE REQUIREMENTS

Keep dry 1: Store in original containers. 2: Keep containers securely sealed.

3: No smoking, naked lights or ignition sources.

4: Store in a cool, dry, well-ventilated area.

5: Store away from incompatible materials and foodstuff containers.

6: Protect containers against physical damage and check regularly for leaks.

7: Observe manufacturer's storing and handling recommendations.

TRANSPORTATION

No restrictions.

SPILLS

MINOR SPILLS

1: Clean up all spills immediately.

2: No smoking, naked lights, ignition sources.

3: Avoid all contact with any organic matter including fuel, solvents,

sawdust, paper or cloth and other incompatible materials, as ignition may result.

- 4: Avoid breathing dust or vapours and all contact with skin and eyes.
- 5: Control personal contact by using protective equipment.
- 6: Contain and absorb spill with dry sand, earth, inert material or vermiculite
- 7: DO NOT use sawdust as fire may result.
- 8: Scoop up solid residues and seal in labelled drums for disposal.
- 9: Neutralise/decontaminate area.

MAJOR SPILLS

- 1: Clear area of personnel and move upwind.
- 2: Alert Fire Brigade and tell them location and nature of hazard.
- 3: May be violently or explosively reactive.
- 4: Wear full body protective clothing with breathing apparatus.
- 5: Prevent, by any means available, spillage from entering drains or water course.
- 6: Consider evacuation (or protect in place).
- 7: No smoking, flames or ignition sources.
- 8: Increase ventilation.
- 9: Contain spill with sand, earth or other clean, inert materials.
- 10: NEVER use organic absorbents such as sawdust, paper, cloth; as fire may result.
- 11: Avoid any contamination by organic matter.
- 12: Use spark-free and explosion-proof equipment.
- 13: Collect any recoverable product into labelled containers for possible recycling.
- 14: DO NOT mix fresh with recovered material.
- 15: Collect residues and seal in labelled drums for disposal.
- 16: Wash area and prevent runoff into drains.
- 17: Decontaminate equipment and launder all protective clothing before storage and re-use.
- 18: If contamination of drains or waterways occurs advise emergency services.

DISPOSAL

- 1: Recycle wherever possible. Special hazard may exist - specialist advice may be required.
- 2: Consult manufacturer for recycling options.
- 3: Consult State Land Waste Management Authority for disposal.
- 4: Bury or incinerate residue at an approved site.
- 5: Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
- 6: Puncture containers to prevent re-use and bury at an authorised landfill.

FIRE FIGHTERS REPORT

EXTINGUISHING MEDIA

Water spray or fog. Foam. Dry chemical powder.
BCF (where regulations permit).

Carbon dioxide.

FIRE FIGHTING

- 1: Alert Fire Brigade and tell them location and nature of hazard.
- 2: May be violently or explosively reactive.
- 3: Wear full body protective clothing with breathing apparatus.
- 4: Prevent, by any means available, spillage from entering drains or water course.
- 5: Consider evacuation (or protect in place).
- 6: Fight fire from a safe distance, with adequate cover.
- 7: Extinguishers should be used only by trained personnel.
- 8: Use water delivered as a fine spray to control fire and cool adjacent area.
- 9: Avoid spraying water onto liquid pools.
- 10: Do not approach containers suspected to be hot.
- 11: Cool fire exposed containers with water spray from a protected location.
- 12: If safe to do so, remove containers from path of fire.
- 13: If fire gets out of control withdraw personnel and warn against entry.
- 14: Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- 1: Will not burn but increases intensity of fire.
 - 2: Heating may cause expansion or decomposition leading to violent rupture of containers.
 - 3: Heat affected containers remain hazardous.
 - 4: Contact with combustibles such as wood, paper, oil or finely divided metal may cause ignition, combustion or violent decomposition.
 - 5: May emit irritating, poisonous or corrosive fumes.
- Other decomposition products include carbon dioxide (CO₂), nitrogen oxides (NO_x) and phosphorus oxides (PO_x).

FIRE INCOMPATIBILITY

Avoid mixing with organic materials / compounds particular finely divided combustible materials as ignition may result.

ENVIRONMENTAL

No data for Fleetguard DCA4 Powder & Pellet.
Refer to data for ingredients, which follows:

POTASSIUM PHOSPHATE, DIBASIC:

The principal problems of phosphate contamination of the environment relates to eutrophication processes in lakes and ponds. Phosphorus is an essential plant nutrient and is usually the limiting nutrient for blue-green algae. A lake undergoing eutrophication shows a rapid growth of algae in surface waters. Planktonic algae cause turbidity and flotation films. Shore algae cause ugly muddying, films and damage to reeds. Decay of these algae causes oxygen depletion in the deep water and shallow water near the shore. The process is self-perpetuating because anoxic conditions at the sediment/

water interface causes the release of more adsorbed phosphates from the sediment. The growth of algae produces undesirable effects on the treatment of water for drinking purposes, on fisheries, and on the use of lakes for recreational purposes.

POTASSIUM NITRATE:

Hazardous Air Pollutant: No

The nitrates are of environmental concern because of their high water solubility and consequent leaching, diffusion, and environmental mobility in soil and water. Nitrate can contaminate groundwater to unacceptable levels. Nitrite is formed from nitrate or ammonium ion by micro-organisms in soil, water, sewage and the alimentary tract. The concern with nitrate in the environment is related to its conversion to nitrite.

Methaemoglobinaemia is caused following exposure to high levels of nitrite and produces difficulties in oxygen transport in the blood. Thousands of cases involving poisoning of infants, particularly in rural areas, have been reported as a result of drinking nitrate rich well-water.

Other concerns deriving from exposure to environmental nitrates relate to the production of nitrosamines following the reaction of food nitrites and secondary amines. Other nitroso-compounds may result following reaction with nitrites and amides, ureas, carbamates and other nitrogenous compounds.

Nitrosamines produce liver damage, haemorrhagic lung lesions, convulsions and coma in rats, and teratogenic effects in experimental animals.

The N-nitroso class of compounds include potent carcinogens and mutagens: induction of tumors by single doses of N-nitroso compounds testify to this.

SODIUM NITRITE:

Hazardous Air Pollutant: No

Hazardous Air Pollutant: No

Toxicity invertebrate: LC50(48)33-100mg/L

SODIUM MOLYBDATE:

No data for sodium molybdate.

SODIUM METASILICATE, PENTAHYDRATE:

DO NOT discharge into sewer or waterways.

CONTACT POINT

COMPANY CONTACT
1800 039 008 - 24 Hour

AUSTRALIAN POISONS INFORMATION CENTRE
24 HOUR SERVICE: 13 11 26
POLICE, FIRE BRIGADE OR AMBULANCE: 000

NEW ZEALAND POISONS INFORMATION CENTRE
24 HOUR SERVICE: (03) 4747 000
NZ EMERGENCY SERVICES: 111

End of Report (REVIEW)

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