

Cummins (Cummins Filtration)

Chemwatch: **13027** Version No: **6.1.1.1** Material Safety Data Sheet according to NOHSC and ADG requirements Chemwatch Hazard Alert Code: 2

Issue Date: 10/03/2014 Print Date: 01/07/2015 Initial Date: Not Available S.Local.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Fleetguard DCA 4 Liquid Cooling Conditioner
Chemical Name	Not Applicable
Synonyms	4-Liquid cooling system, DCA 4 Liquid, DCA-4 60L, DCA-4 65L, DCA-4 75 L, DCA-4 80L, DCA4, Product No.: SCA 1000L, corrosion inhibitor, diesel coolant additive
Proper shipping name	Not Applicable
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified	Corrosion inhibiting additive for engine cooling water system. Used as per directions. May be premixed or added direct to
uses	cooling water.

Details of the manufacturer/importer

Registered company name	Cummins (Cummins Filtration)
Address	31 Garden Street Kilsyth 3137 VIC Australia
Telephone	+61 3 9721 9100
Fax	+61 3 9721 9148
Website	Not Available
Email	Not Available

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	1800 039 008 (24 hours)
Other emergency telephone numbers	+61 3 9573 3112

CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
1800 039 008	+612 9186 1132	Not Available

Once connected and if the message is not in your prefered language then please dial 01

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

CHEMWATCH HAZARD RATINGS

	Min	Max	
Flammability	0		
Toxicity	2	1	0 – Minimum
Body Contact	2	1	1 = Low
Reactivity	0	1	2 = Moderate
Chronic	2		4 = Extreme

Poisons Schedule	S6	
Risk Phrases ^[1]	R36/37/38	Irritating to eyes, respiratory system and skin.
	R22	Harmful if swallowed.
	R33	Danger of cumulative effects.
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI	



Relevant risk statements are found in section 2

Xn
Keep away from food, drink and animal feeding stuffs.
Do not breathe gas/fumes/vapour/spray.
Avoid contact with eyes.
In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
Wear suitable protective clothing.
Wear suitable gloves.
Wear eye/face protection.
To clean the floor and all objects contaminated by this material, use water.
If swallowed, seek medical advice immediately and show this container or label.
Dispose of this material and its container at hazardous or special waste collection point.
If swallowed, rinse mouth with water (only if the person is conscious).

Other hazards

Limited evidence of a carcinogenic effect*.
Possible skin sensitizer*.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7758-11-4	5-10	potassium phosphate, dibasic
7757-79-1	1-5	potassium nitrate
10102-40-6	1-5	sodium molybdate
19147-16-1	1-5	dipotassium adipate
64665-57-2	1-3	sodium tolyltriazole
7632-00-0	1-3	sodium nitrite

SECTION 4 FIRST AID MEASURES

Description of first aid measures

	 Wash out immediately with fresh running water. 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. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	 If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay.
Ingestion	 IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. For advice, contact a Poisons Information Centre or a doctor. Urgent hospital treatment is likely to be needed. In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist. If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS. Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise: INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. NOTE: Wear a protective glove when inducing vomiting by mechanical means.

Indication of any immediate medical attention and special treatment needed

for phosphate salts intoxication:

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
- Ingestion of large quantities of phosphate salts (over 1.0 grams for an adult) may cause an osmotic catharsis resulting in diarrhoea and probable abdominal cramps. Larger doses such as 4-8 grams will almost certainly cause these effects in everyone. In healthy individuals most of the ingested salt will be excreted in the faeces with the diarrhoea and, thus, not cause any systemic toxicity. Doses greater than 10 grams hypothetically may cause systemic toxicity.
- Treatment should take into consideration both anionic and cation portion of the molecule.
- + All phosphate salts, except calcium salts, have a hypothetical risk of hypocalcaemia, so calcium levels should be monitored.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

There is no restriction on the type of extinguisher which may be used.
Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.	
Advice for firefighters		
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. 	
Fire/Explosion Hazard	 Non combustible. Not considered a significant fire risk, however containers may burn. Decomposition may produce toxic fumes of:, nitrogen oxides (NOx), phosphorus oxides (POx)May emit poisonous fumesMay emit corrosive fumes. 	

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	 Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite.
Major Spills	 Moderate hazard. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves.
	Personal Protective Equipment advice is contained in Section 8 of the MSDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	 DO NOT allow clothing wet with material to stay in contact with skin Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Avoid contact with moisture.
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container	 Polyethylene or polypropylene container. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	 WARNING: Avoid or control reaction with peroxides. All <i>transition metal</i> peroxides should be considered as potentially explosive. For example transition metal complexes of alkyl hydroperoxides may decompose explosively. The pi-complexes formed between chromium(0), vanadium(0) and other transition metals (haloarene-metal complexes) and mono-or poly-fluorobenzene show extreme sensitivity to heat and are explosive.

PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure	sodium	Molybdenum, soluble compounds (as Mo)	5	Not	Not	Not
Standards	molybdate		mg/m3	Available	Available	Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
potassium phosphate, dibasic	Potassium phosphate dibasic trihydrate	30 mg/m3	330 mg/m3	2000 mg/m3
potassium phosphate, dibasic	Potassium phosphate, dibasic	30 mg/m3	330 mg/m3	2000 mg/m3
potassium nitrate	Potassium nitrate	0.074 mg/m3	0.82 mg/m3	600 mg/m3
sodium molybdate	Sodium molybdate dihydrate; (Disodium molybdate dihydrate)	2.9 mg/m3	2.9 mg/m3	210 mg/m3
sodium molybdate	Molybdic acid, disodium salt; (Disodium molybdate)	1.1 mg/m3	1.1 mg/m3	230 mg/m3
sodium tolyltriazole	Sodium tolyltriazole; (1H-Benzotriazole, 4(or 5)-methyl-, sodium salt)	1.9 mg/m3	21 mg/m3	130 mg/m3
sodium nitrite	Sodium nitrite	2.3 mg/m3	26 mg/m3	280 mg/m3
Ingredient	Original IDLH	Revised IDLH		
potassium phosphate, dibasic	Not Available	Not Available		

potassium nitrate	Not Available	Not Available
sodium molybdate	N.E. mg/m3 / N.E. ppm	1,000 mg/m3
dipotassium adipate	Not Available	Not Available
sodium tolyltriazole	Not Available	Not Available
sodium nitrite	Not Available	Not Available

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
Personal protection	
Eye and face protection	 Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.
Skin protection	See Hand protection below
Hands/feet protection	 Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber NOTE: The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.
Body protection	See Other protection below
Other protection	 Overalls. P.V.C. apron. Barrier cream.
Thermal hazards	Not Available

Respiratory protection

Not Applicable

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the *computer-generated* selection:

CPI

Fleetguard DCA 4 Liquid Cooling Conditioner Not Available

Material

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion **NOTE**: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -* Where the glove is to be used on a short term, casual or infrequent

basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Blue alkaline liquid with a little or no odour; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	1.13-1.15

Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	10-11	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	100	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	101.3 @ 100C	Gas group	Not Available
Solubility in water (g/L)	Miscible	pH as a solution(1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Molybdenum, an essential trace element, can in large doses hamper growth and cause loss of appetite, listlessness and diarrhoea. Anaemia also occurs, and other symptoms include greying of hair, shrinking of the testicles, reduced fertility and milk production, shortness of breath, incoordination and irritation of the mucous membranes. The lethal oral dose of nitrite for adults has been variously reported to be between 0.7 and 6 g NO2- (approximately 10 to 100 mg NO2-/kg).
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	Substance accumulation, in the human body, is likely and may cause some concern following repeated or long-term occupational exposure. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population. High levels of molybdenum can cause joint problems in the hands and feet with pain and lameness.

Fleetguard DCA 4	ΤΟΧΙCITY	IRRITATION
Liquid Cooling Conditioner	Not Available	Not Available
potassium phosphate,	ΤΟΧΙCΙΤΥ	IRRITATION
dibasic	Not Available	Not Available
	TOXICITY Oral (rabbit) LD50: 1901	IRRITATION Nil reported
potassium nitrate	mg/kg	
	Not Available	Not Available
	ΤΟΧΙΟΙΤΥ	IRRITATION
	Inhalation (Rat) LC50: >2080 mg/m3/4h	
	Intraperitoneal (Mouse) LD50: 257 mg/kg	
	Intraperitoneal (Mouse) LD50: 303 mg/kg	
	Intraperitoneal (Rat) LD50: 520 mg/kg	
sodium molybdate	Intraperitoneal (Rat) LD50: 576 mg/kg	
	Intravenous (Cat) LD50: 917 mg/kg	
	Oral (Dog) LD50: 250 mg/kg	
	Oral (Guinea pig) LD50: 310 mg/kg	
	Oral (Rat) LD50: 250 mg/kg	
	Oral (Rat) LD50: 4000 mg/kg	
	Subcutaneous (Mouse) LD50: 570 mg/kg	
	Not Available	Not Available
dinatassium adinata	ΤΟΧΙΟΙΤΥ	IRRITATION
dipotassium adipate	Not Available	Not Available
	ΤΟΧΙΟΙΤΥ	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg (24 hr)	[CCINFO]
	Inhalation (rat) LC50: >17500 mg/m3/3h	Eye (rabbit): Corrosive
sodium tolyltriazole	Oral (rat) LD50: 1980 mg/kg (male)	Skin (rabbit): Corrosive
, , ,	Oral (rat) LD50: 675 mg/kg (female)	
	Oral (rat) LD50: 735 mg/kg (female)	
	Oral (rat) LD50: 920 mg/kg (male)	
	Not Available	Not Available
	ΤΟΧΙΟΙΤΥ	IRRITATION
sodium nitrite	Inhalation (rat) LC50: 5.5 mg/m3/4H	Eye (rabbit): 500 mg/24hr - mild
	Oral (rat) LD50: 180 mg/kg	
	Not Available	Not Available

Not available. Refer to individual constituents.

SODIUM TOLYLTRIAZOLE	for 50% aqueous solution: * * Bayer		
SODIUM NITRITE	The material may be irritating to the eye, with po irritants may produce conjunctivitis. Tumorigenic - Carcinogenic by RTECS criteria.	rolonged contact causing inf	lammation. Repeated or prolonged exposure to
POTASSIUM PHOSPHATE, DIBASIC, DIPOTASSIUM ADIPATE	No significant acute toxicological data identified	I in literature search.	
SODIUM MOLYBDATE, SODIUM TOLYLTRIAZOLE	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.		
Acute Toxicity	*	Carcinogenicity	0
Skin Irritation/Corrosion	*	Reproductivity	0
Serious Eye Damage/Irritation	*	STOT - Single Exposure	*
Respiratory or Skin sensitisation	0	STOT - Repeated Exposure	*
Mutagenicity	0	Aspiration Hazard	0
		Legend: 🖌 – Data requ	uired to make classification available

X − Data available but does not fill the criteria for classification S − Data Not Available to make classification

CMR STATUS

Not Applicable

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

For Molybdenum:

Environmental Fate: Molybdenum is an essential micronutrient in plants and animals. It is commonly used in the manufacture of steel alloys. Based on the high concentration of molybdenum in all analyzed waste types, the exposure of the environment to molybdenum is regarded as significant. The limited amount of data regarding its toxicity makes it impossible to evaluate the potential for adverse environmental and health effects from molybdenum exposure.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
potassium nitrate	LOW	LOW
sodium molybdate	HIGH	HIGH
sodium nitrite	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
potassium nitrate	LOW (LogKOW = 0.209)
sodium molybdate	LOW (LogKOW = 2.229)
sodium nitrite	LOW (LogKOW = 0.0564)

Mobility in soil

Ingredient	Mobility
potassium nitrate	LOW (KOC = 14.3)
sodium molybdate	LOW (KOC = 48.64)
sodium nitrite	LOW (KOC = 23.74)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

	 Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. 	
Product / Packaging	Otherwise:	
disposal	• If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to	
	store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.	
	Where possible retain label warnings and MSDS and observe all notices pertaining to the product.	

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code

Source	Ingredient	Pollution Category
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	sodium nitrite	Y

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

potassium phosphate, dibasic(7758-11-4) is found on the following regulatory lists	"Australia Inventory of Chemical Substances (AICS)"
potassium nitrate(7757-79-1) is found on the following regulatory lists	"Australia Inventory of Chemical Substances (AICS)"
sodium molybdate(10102-40-6) is found on the following regulatory lists	"Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "Australia Hazardous Substances Information System - Consolidated Lists"
dipotassium adipate(19147-16-1) is found on the following regulatory lists	"Not Applicable"
sodium tolyltriazole(64665-57-2) is found on the following regulatory lists	"Australia Inventory of Chemical Substances (AICS)"
sodium nitrite(7632-00-0) is found on the following regulatory lists	"Australia Inventory of Chemical Substances (AICS)","International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs","Australia Hazardous Substances Information System - Consolidated Lists"

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

Name	CAS No
potassium phosphate, dibasic	16788-57-1, 7758-11-4
sodium molybdate	10102-40-6, 7631-95-0

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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