

MATERIAL SAFETY DATA SHEET

Product Trade Name: DCA-15003

Revision Date: 27-May-2015

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Statement of Hazardous Nature Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

Manufacturer/Supplier Halliburton Australia Pty. Ltd.
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Jandakot
WA 6164
Australia

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Telephone Number: 61 (08) 9455 8300
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Product Emergency Telephone

Australia: 08-64244950
Papua New Guinea: 05 1 281 575 5000
NewZealand: 06-7559274

Fire, Police & Ambulance - Emergency Telephone

Australia: 000
Papua New Guinea: 000
New Zealand: 111

Identification of Substances or Preparation

Product Trade Name: DCA-15003
Synonyms: None
Chemical Family: Organic acid
Dangerous Goods Class: None
Subsidiary Risk: None
Hazchem Code: None Allocated
Poisons Schedule: None Allocated
Application: Chelating agent

Prepared By Chemical Stewardship
Telephone: 1-580-251-4335
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2. HAZARDS IDENTIFICATION

Statement of Hazardous Nature Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

Hazard Overview May cause eye irritation. May be harmful if inhaled.

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|----------------------------|---|
| Classification | Xn - Harmful. |
| Risk Phrases | R36 Irritating to eyes. R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation. |
| Safety Phrases | S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S24/25 Avoid contact with skin and eyes. |
| HSNO Classification | 6.4A Irritating to the eye 6.9B Harmful to human target organs or systems |

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Substances | CAS Number | PERCENT (w/w) | Australia NOHSC | New Zealand WES | ACGIH TLV-TWA |
|--|------------|---------------|---|--|----------------------------|
| N,N-bis(carboxymethyl)-L-glutamic acid | 58976-65-1 | 10 - 30% | Not applicable | Not applicable | Not applicable |
| Formic acid | 64-18-6 | 0.1 - 1% | TWA: 5 ppm 9.4 mg/m ³ STEL: 10 ppm STEL: 19 mg/m ³ | STEL: 10 ppm STEL: 19 mg/m ³ TWA: 5 ppm TWA: 9.4 mg/m ³ | TWA: 5 ppm STEL: 10 ppm |

Non-Hazardous Substance to Total of 100% Non-Hazardous Substance to Total of 100%

4. FIRST AID MEASURES

| | |
|---------------------------|---|
| Inhalation | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| Skin | Wash with soap and water. Get medical attention if irritation persists. |
| Eyes | In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing. |
| Ingestion | Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention. |
| Notes to Physician | Treat symptomatically. |

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

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| Special Exposure Hazards | Decomposition in fire may produce harmful gases. |
| Special Protective Equipment for Fire-Fighters | Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel. |

6. ACCIDENTAL RELEASE MEASURES

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| Personal Precautionary | Use appropriate protective equipment. Spills of this product are very slippery. |
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| Measures | Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation. |
| Environmental Precautionary Measures | Prevent from entering sewers, waterways, or low areas. Consult local authorities. |
| Procedure for Cleaning / Absorption | Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove. |

7. HANDLING AND STORAGE

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|-----------------------------|--|
| Handling Precautions | Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Do NOT consume food, drink, or tobacco in contaminated areas. Wash hands after use. Use appropriate protective equipment. |
| Storage Information | Store away from acids. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 36 months. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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| Engineering Controls | Use in a well ventilated area. |
| Personal Protective Equipment | If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product. |
| Respiratory Protection | Not normally needed. But if significant exposures are possible then the following respirator is recommended: Organic vapor/HEPA respirator. |
| Hand Protection | Impervious rubber gloves. Viton gloves |
| Skin Protection | Normal work coveralls. |
| Eye Protection | Chemical goggles; also wear a face shield if splashing hazard exists. |
| Other Precautions | Eyewash fountains and safety showers must be easily accessible. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|----------------|
| Physical State: | Liquid |
| Color: | Yellow |
| Odor: | Slight Ammonia |
| pH: | 3.4-4.0 (10%) |
| Specific Gravity @ 20 C (Water=1): | 1.26 |
| Density @ 20 C (kg/l): | 1.31 |
| Bulk Density @ 20 C (kg/M3): | Not Determined |
| Boiling Point/Range (C): | 105-110 |
| Freezing Point/Range (C): | -12 |
| Pour Point/Range (C): | Not Determined |
| Flash Point/Range (C): | Not Determined |
| Flash Point Method: | Not Determined |
| Autoignition Temperature (C): | Not Determined |
| Flammability Limits in Air - Lower (g/m³): | Not Determined |
| Flammability Limits in Air - Lower (%): | Not Determined |
| Flammability Limits in Air - Upper (g/m³): | Not Determined |
| Flammability Limits in Air - Upper (%): | Not Determined |
| Vapor Pressure @ 20 C (mmHg): | Not Determined |
| Vapor Density (Air=1): | Not Determined |

| | |
|--|----------------|
| Percent Volatiles: | Not Determined |
| Evaporation Rate (Butyl Acetate=1): | Not Determined |
| Solubility in Water (g/100ml): | Miscible |
| Solubility in Solvents (g/100ml): | Not Determined |
| VOCs (g/l): | Not Determined |
| Viscosity, Dynamic @ 20 C (centipoise): | Not Determined |
| Viscosity, Kinematic @ 20 C (centistokes): | Not Determined |
| Partition Coefficient/n-Octanol/Water: | < 0 |
| Molecular Weight (g/mole): | Not Determined |
| Decomposition Temperature (C): | Not Determined |

10. STABILITY AND REACTIVITY

| | |
|--------------------------------------|--|
| Stability Data: | Stable |
| Hazardous Polymerization: | Will Not Occur |
| Conditions to Avoid | None anticipated |
| Incompatibility (Materials to Avoid) | Strong acids. Strong oxidizers. Prolonged contact with aluminum. Zinc. Copper and copper alloys. Hydrogen. |
| Hazardous Decomposition Products | Carbon monoxide and carbon dioxide. Oxides of nitrogen. Ammonia. Sodium oxides. |
| Additional Guidelines | Not Applicable |

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure Eye or skin contact, inhalation.

Symptoms related to exposure

Acute Toxicity

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|--------------|-------------------------------------|
| Inhalation | May cause respiratory irritation. |
| Eye Contact | Causes eye irritation. |
| Skin Contact | May cause mild skin irritation. |
| Ingestion | Low level of toxicity by ingestion. |

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause damage to the upper respiratory tract.

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|------------------|------------------------|
| LD50 Oral: | > 2000 mg/kg; (Rat) |
| LC50 Inhalation: | > 4.2 mg/L; 4hr; (Rat) |

Toxicology data for the components

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--|------------|------------------|--|--|
| N,N-bis(carboxymethyl)-L-glutamic acid | 58976-65-1 | 4500 mg/kg (Rat) | > 2000 mg/kg (Rat)(similar substance) | No data available |
| Formic acid | 64-18-6 | 730 mg/kg (Rat) | > 2000 mg/kg (Rat) (Similar substance) | 7.4 mg/L (Rat) 4h 15 mg/L (Rat) 15m |

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

Ecotoxicity Product

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|-----------------------------|---|
| Acute Fish Toxicity: | TLM96: >100 ppm (Oncorhynchus mykiss) |
| Acute Crustaceans Toxicity: | EC50: (48 hour) >100 mg/l (Daphnia magna) |
| Acute Algae Toxicity: | EC50: > 100 mg/l |

Ecotoxicity Substance

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|--|------------|---|---|---|---|
| N,N-bis(carboxymethyl)-L-glutamic acid | 58976-65-1 | EC50(72h): > 100 mg/L (Scenedesmus subspicatus) (similar substance) | LC50(96h): 59 mg/L (Lepomis macrochirus)(similar substance) NOEC(28d): > 25.7 mg/L (Brachydanio rerio) (similar substance) | No information available | EC50(48h): 140 mg/L (Daphnia magna) (similar substance) NOEC(21d): 25 mg/L (Daphnia magna)(similar substance) |
| Formic acid | 64-18-6 | EC50 25 mg/L (Desmodesmus subspicatus) EC50 (72h) 1240 mg/L (growth rate) (Pseudokirchnerella subcapitata) (Similar substance) | LC50 (96h) 175 mg/L (Lepomis Macrochirus) LC50 (96h) 130 mg/L (Danio rerio) (Similar substance) LC50 (96h) 1720 mg/L (Scophthalmus maximus) (Similar substance) LC50 (96h) 3500 mg/L (Oncorhynchus mykiss) (similar substance) | NOEC (13d) 72 mg/L (activated sludge, domestic) | EC50 (48h) 120 mg/L (Daphnia magna) EC50 (48h) 450 mg/L (Daphnia magna) (similar substance) EC50 (48h) 365 mg/L (Daphnia magna) (Similar substance) LC50 (96h) 1308 mg/L (Crangon crangon) (Similar substance) NOEC (21d) >= 100 mg/L (Daphnia magna) |

12.2. Persistence and degradability

| Substances | CAS Number | Persistence and Degradability |
|--|------------|-----------------------------------|
| N,N-bis(carboxymethyl)-L-glutamic acid | 58976-65-1 | (30 - 85% @ 28d) |
| Formic acid | 64-18-6 | Readily biodegradable (100 @ 14d) |

12.3. Bioaccumulative potential

| Substances | CAS Number | Log Pow |
|--|------------|---------|
| N,N-bis(carboxymethyl)-L-glutamic acid | 58976-65-1 | -3.86 |
| Formic acid | 64-18-6 | -2.1 |

12.4. Mobility in soil**12.5. Results of PBT and vPvB assessment**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

| Substances | PBT and vPvB assessment |
|-------------|-------------------------|
| Formic acid | Not PBT/vPvB |

12.6. Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION**Australia Dangerous Goods**

UN Number: Not restricted
 UN Proper Shipping Name: Not restricted
 Transport Hazard Class(es): Not applicable
 Packing Group: Not applicable

IMDG/IMO

UN Number: Not restricted

UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

IATA/ICAO

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable

Special Precautions for User: None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

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| 15. REGULATORY INFORMATION |
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Chemical Inventories Chemical Inventories

| | |
|---|--|
| Australian AICS Inventory | Product contains one or more components not listed on inventory. |
| New Zealand Inventory of Chemicals | Product contains one or more components not listed on inventory. |
| US TSCA Inventory | All components listed on inventory or are exempt. |
| EINECS Inventory | This product, and all its components, complies with EINECS |

Classification Xn - Harmful.

Risk Phrases R36 Irritating to eyes.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Safety Phrases S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S24/25 Avoid contact with skin and eyes.

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| 16. OTHER INFORMATION |
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The following sections have been revised since the last issue of this SDS

Section 2. Hazards Identification

Contact

Australian Poisons Information Centre

24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

New Zealand National Poisons Centre

0800 764 766

Additional information For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

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*****END OF MSDS*****