

1. Identification of Substance & Company

Product

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| Product name | Radtech HD400 Premix |
| HSNO approval | HSR002606 |
| Approval description | Lubricants, Lubricant Additives, Coolants and Anti-freeze Agents (Subsidiary Hazard) Group Standard 2017 |
| UN number | NA |
| DG class | NA |
| Proper Shipping Name | NA |
| Packaging group | NA |
| Hazchem code | NA |
| Uses | Antifreeze/Antiboil |

Company Details

| | |
|------------------|--|
| Company | Fargo International Ltd |
| Address | 71F Adams drive, Auckland. New Zealand |
| Telephone | +64 9 238 2389 [8.00 - 4.30 Mon to Fri] |
| Fax | +64 9 238 2399 |

Emergency Telephone Number: +64 21 930 795 (24 hours emergency only)
National Poison Centre NZ (24 hours): 0800 POISON [764 766]
Poison Information Centre Australia (24 Hours) : 13 11 26

2. Hazard Identification

Approval

This product has been approved under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002606, Lubricants, Lubricant Additives, Coolants and Anti-freeze Agents (Subsidiary Hazard) Group Standard 2017), and is classified as follows:

| Classes | Hazard Statements |
|-------------|--|
| 6.1E (oral) | H303 - May be harmful if swallowed |
| 6.4A | H320 - Causes eye irritation. |
| 6.9A | H372 - Causes damage to organs through prolonged or repeated exposure. |
| 9.3C | H433 - Harmful to terrestrial vertebrates. |

SYMBOLS

DANGER



Other Classifications

There are no other classifications that are known to apply.

Precautionary Statements

P101 - If medical advice is needed, have product container or label at hand.
 P102 - Keep out of reach of children.
 P103 - Read label before use.
 P260 - Do not breathe vapours.
 P264 - Wash hands thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P273 - Avoid release to the environment.
 P280 - Wear eye protection.
 P312 - Call a POISON CENTRE or doctor/physician if you feel unwell.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P308+P313 - IF exposed or concerned: Get medical advice/ attention.

P405 - Store locked up

3. Composition / Information on Ingredients

| Component | CAS/ Identification | Conc (%) |
|--|---------------------|----------|
| Ethylene glycol | 107-21-1 | 50% |
| Ingredients not contributing to HSNO classes | mixture | balance |

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

4. First Aid

General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service). IF exposed or concerned: Get medical advice/ attention.

Recommended first aid facilities Ready access to running water is recommended.

Exposure

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| Swallowed | Do NOT induce vomiting. Give a glass of water to drink. Call a POISON CENTRE or doctor/physician if you feel unwell. |
| Eye contact | If product gets in eyes, wash material from them with running water for several minutes. If eye irritation persists: Get medical advice/attention. |
| Skin contact | This product is non-irritating to skin. No further measures should be required. |
| Inhaled | Generally, inhalation of vapours is unlikely to result in adverse health effects. If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor. |

Advice to Doctor

Treat symptomatically

5. Firefighting Measures

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| Fire and explosion hazards: | There are no specific risks for fire/explosion for this chemical. It is non-flammable. |
| Suitable extinguishing substances: | Carbon dioxide, extinguishing powder or water jet. Fight larger fires with water jet or alcohol resistant foam. |
| Unsuitable extinguishing substances: | Unknown. |
| Products of combustion: | Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. |
| Protective equipment: | Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection. |
| Hazchem code: | NA |

6. Accidental Release Measures

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|-----------------------------|---|
| Containment | If greater than 10000L is stored, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to stormwater. |
| Emergency procedures | In the event of spillage alert the fire brigade to location and give brief description of hazard. Stop the source of the leak, if safe to do so. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Do not use sawdust on concentrate. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses. (If this occurs contact your regional council immediately). |

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| Clean-up method | Use absorbent (soil, sand or other inert material). Rags are not recommended for the clean-up of spills, as they may create fire or environmental hazard. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services. |
| Disposal | Mop up and collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations. |
| Precautions | Spill may be a slip hazard. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. |

7. Storage & Handling

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| Storage | Avoid storage of harmful substances with food. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Avoid contact with incompatible substances as listed in Section 10. |
| Handling | Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid eye contact and inhalation of vapour, mist or aerosols. |

8. Exposure Controls / Personal Protective Equipment

Workplace Exposure Standards

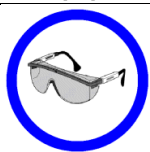
A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m³ for respirable particulates and 10mg/m³ for inhalable particulates when limits have not otherwise been established.

| NZ Workplace Exposure Stds | Ingredient | WES-TWA* | WES-STEL |
|----------------------------|-----------------|--|------------------|
| | Ethylene glycol | ceiling: 50ppm (127mg/m ³) | data unavailable |

Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

Personal Protective Equipment

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|--------------------|---|---|
| Eyes |  | Avoid contact with eyes. Use safety glasses and or chemical splash goggles if splashes are possible. |
| Skin | | Avoid repeated or prolonged skin contact. Wear overalls, rubber boots and impervious gloves if handling this substance in bulk. Gloves should be checked for tears or holes before use. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking. |
| Respiratory | | A respirator when airborne concentrations approach the WES (section 8). Use a respirator with an organic vapour. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. |

WES Additional Information

Not applicable

9. Physical & Chemical Properties

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|---------------------------------|--------------------|
| Appearance | green clear liquid |
| Odour | slight odour |
| pH | no data |
| Vapour pressure | 0.12 |
| Viscosity | no data |
| Boiling point | 120°C |
| Volatile materials | no data |
| Freezing / melting point | no data |

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|---|--------------------------------|
| Solubility | miscible in water and alcohols |
| Specific gravity / density | 1.05-1.06 @20°C |
| Flash point | ~111°C |
| Danger of explosion | not explosive |
| Auto-ignition temperature | no data |
| Upper & lower flammable limits | no data |
| Corrosiveness | non corrosive |

10. Stability & Reactivity

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| Stability | Stable |
| Conditions to be avoided | Containers should be kept closed in order to avoid contamination. Keep from extreme heat and open flames. |
| Incompatible groups | Strong acids, strong bases, oxidising agents. |
| Substance Specific Incompatibility | none known |
| Hazardous decomposition products | Oxides of carbon, some toxic fumes may be emitted during thermal decomposition. |
| Hazardous reactions | none known |

11. Toxicological Information

Summary

IF SWALLOWED: Ingestion may cause gastrointestinal irritation, inebriation, drowsiness, nausea, vomiting and diarrhea. May cause central nervous system depression.

IF IN EYES: may cause eye irritation.

IF ON SKIN: no effect expected.

IF INHALED: Inhalation of high concentration of vapours may cause respiratory irritation and affect the central nervous system. Symptoms include dizziness, drowsiness, headaches and inebriation and possible loss of consciousness.

CHRONIC TOXICITY: Long term exposure to ethylene glycol may affect the kidneys, CNS and metabolism.

Supporting Data

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| Acute | Oral | Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (oral, rat) for the mixture is between 2000 and 5,000 mg/kg. Data considered includes: ethylene glycol LD ₅₀ (oral): 1670 mg/kg bw (cat), 5500mg/kg (dog), 6610mg/kg (guinea pig). |
| | Dermal | Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (dermal, rat) for the mixture is >5000 mg/kg. Data considered includes: ethylene glycol LD ₅₀ (dermal): 9.53mL/kg (rabbit). |
| Chronic | Inhaled | No evidence of inhalation toxicity. |
| | Eye | The mixture is considered to be an eye irritant. Ethylene glycol is an eye irritant. |
| | Skin | The mixture is not considered to be a skin irritant. |
| | Sensitisation | No ingredient present at concentrations > 0.1% is considered a sensitizer. |
| | Mutagenicity | No ingredient present at concentrations > 0.1% is considered a mutagen. |
| | Carcinogenicity | No ingredient present at concentrations > 0.1% is considered a carcinogen. |
| | Reproductive / Developmental Systemic | No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation. |
| | Aggravation of existing conditions | Ethylene glycol is a known systemic toxicant. Long term exposure may affect the kidneys, CNS and metabolism. None known. |

12. Ecological Data

Summary

This mixture is not considered to be ecotoxic towards aquatic organisms, but is harmful towards terrestrial vertebrates.

Supporting Data

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| Aquatic | Using EC ₅₀ 's for ingredients, the calculated EC ₅₀ for the mixture is > 100 mg/L. Data considered includes: ethylene glycol >100mg/L |
| Bioaccumulation | No data |
| Degradability | No data |
| Soil | No data |
| Terrestrial vertebrate | The mixture is classed 9.3C. Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (oral, rat) for the mixture is between 500 and 2,000 mg/kg. Data considered includes: ethylene |

| | |
|------------------------------------|---|
| Terrestrial invertebrate | glycol LD ₅₀ (oral): 1670 mg/kg bw (cat), 5500mg/kg (dog), 6610mg/kg (guinea pig). |
| Biocidal | No evidence of toxicity towards terrestrial invertebrates. |
| Environmental effect levels | no data |
| | No EELs are available for this mixture or ingredients |

13. Disposal Considerations

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| Restrictions | There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents. |
| Disposal method | Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment. |
| Contaminated packaging | Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging. |

14. Transport Information

There are no specific restrictions for this product (not a dangerous good).

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|---------------------|----|------------------------------|----|
| UN number: | NA | Proper shipping name: | NA |
| Class(es) | NA | Packing group: | NA |
| Precautions: | NA | Hazchem code: | NA |

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002606, Lubricants, Lubricant Additives, Coolants and Anti-freeze Agents (Subsidiary Hazard) Group Standard 2017. All ingredients appear on the NZIoC.

Specific Controls

Key workplace requirements are:

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| SDS | To be available within 10 minutes in workplaces storing any quantity. |
| Inventory | An inventory of all hazardous substances must be prepared and maintained. |
| Packaging | All hazardous substances should be appropriately packaged including substances that have been decanted, transferred or manufactured for own use or have been supplied |
| Labelling | Must comply with the Hazardous Substances (Labelling) Notice 2017. |
| Emergency plan | Required if > 10000L is stored. |
| Certified handler | Not required. |
| Tracking | Not required. |
| Bundling & secondary containment | Required if > 10000L is stored. |
| Signage | Not required. |
| Location compliance certificate | Not required. |
| Flammable zone | Not required. |
| Fire extinguisher | Not required. |

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

16. Other Information
Abbreviations

| | |
|------------------------|--|
| Approval Code | Approval HSR002606, Lubricants, Lubricant Additives, Coolants and Anti-freeze Agents (Subsidiary Hazard) Group Standard 2017 Controls, EPA. www.epa.govt.nz |
| CAS Number | Unique Chemical Abstracts Service Registry Number |
| EC₅₀ | Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species) |
| EPA | Environmental Protection Authority (New Zealand) |
| HAZCHEM Code | Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters |
| HSNO | Hazardous Substances and New Organisms (Act and Regulations) |
| IARC | International Agency for Research on Cancer |
| LEL | Lower Explosive Limit |
| LD₅₀ | Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats). |
| LC₅₀ | Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats) |
| MSDS (SDS) | Material Safety Data Sheet (or Safety Data Sheet) |
| PES | Prescribed Exposure Standard means a WES or a biological exposure standard that is prescribed in a regulation, a safe work instrument or an approval under HSNO (including group standards). |
| STEL | Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded |
| TWA | Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours) |
| UEL | Upper Explosive Limit |
| UN Number | United Nations Number |
| WES | Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone. |

References

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|--------------------------|---|
| Data | Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID). |
| Controls | EPA notices, www.epa.govt.nz , Health and Safety at Work (Hazardous Substances) Regulations 2017, www.legislation.govt.nz |
| WES | The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz . |
| Other References: | Suppliers SDS |

Review

| Date | Reason for review |
|---------------|--------------------------|
| May 2017 | Not applicable – new SDS |
| November 2019 | Update of group standard |

Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely HSNO classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: +64 9 940 30 80.

