



A-Gas ERG1000 Premium Synthetic Refrigeration Oil

A-Gas (Australia) Pty Ltd

Chemwatch: 33-1975

Version No: 3.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 1

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S.GHS.AUS.EN

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

Product Identifier

| | |
|-------------------------------|---|
| Product name | A-Gas ERG1000 Premium Synthetic Refrigeration Oil |
| Synonyms | Not Available |
| Other means of identification | Not Available |

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

| | |
|--------------------------|------------|
| Relevant identified uses | Lubricant. |
|--------------------------|------------|

Details of the supplier of the safety data sheet

| | |
|-------------------------|--|
| Registered company name | A-Gas (Australia) Pty Ltd |
| Address | 9-11 Oxford Rd, Laverton North Victoria 3026 Australia |
| Telephone | 93689208 |
| Fax | Not Available |
| Website | Not Available |
| Email | Not Available |

Emergency telephone number

| | |
|-----------------------------------|-------------------------|
| Association / Organisation | TOLL CHEMICAL LOGISTICS |
| Emergency telephone numbers | 1800024973 |
| Other emergency telephone numbers | Not Available |

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

| | |
|-------------------------------|---|
| Poisons Schedule | Not Applicable |
| Classification ^[1] | Acute Toxicity (Oral) Category 5, Eye Irritation Category 2B |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI |

Label elements

| | |
|---------------------|----------------|
| Hazard pictogram(s) | Not Applicable |
| SIGNAL WORD | WARNING |

Hazard statement(s)

| | |
|------|------------------------------|
| H303 | May be harmful if swallowed. |
| H320 | Causes eye irritation. |

Precautionary statement(s) Prevention

| | |
|------|---|
| P264 | Wash all exposed external body areas thoroughly after handling. |
|------|---|

Precautionary statement(s) Response

| | |
|------|--|
| P312 | Call a POISON CENTER 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.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|--|-----------|----------------------------|
| Not Available | NotSpec. | synthetic hydrocarbons, as |
| Not avail. | | <u>mineral oil</u> |
| Not Available | NotSpec. | additives |
| Note: ERG PRODUCTS ARE NOT FORMULATED TO CONTAIN | | |
| PCBS | | |

SECTION 4 FIRST AID MEASURES

Description of first aid measures

| | |
|--------------|--|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> 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 | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation. |
| Inhalation | <ul style="list-style-type: none"> If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary. |
| Ingestion | <ul style="list-style-type: none"> If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice. |

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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 | Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|----------------------|--|

Advice for firefighters

| | |
|-----------------------|---|
| Fire Fighting | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). <p>Combustion products include:</p> |

| | |
|---------|--|
| | <ul style="list-style-type: none"> carbon dioxide (CO₂) metal oxides other pyrolysis products typical of burning organic material. May emit poisonous fumes. |
| HAZCHEM | Not Applicable |

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

| | |
|--------------|---|
| Minor Spills | <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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 SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

| | |
|-------------------|--|
| Safe handling | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> Polyethylene or polypropylene container. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks. |
| Storage incompatibility | <ul style="list-style-type: none"> Avoid reaction with oxidising agents |

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA


| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|------------------------------|-------------|---------------------------|---------------------|---------------|---------------|---------------|
| Australia Exposure Standards | mineral oil | Oil mist, refined mineral | 5 mg/m ³ | Not Available | Not Available | Not Available |

EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---------------|---------------|---------------|---------------|
| A-Gas ERG1000 Premium Synthetic Refrigeration Oil | Not Available | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|----------------------------|-------------------------|---------------|
| synthetic hydrocarbons, as | Not Available | Not Available |
| mineral oil | 2,500 mg/m ³ | Not Available |
| additives | Not Available | Not Available |

Exposure controls

| | |
|---|---|
| Appropriate engineering controls | <p>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.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>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.</p> |
| Personal protection |  |
| Eye and face protection | <ul style="list-style-type: none"> ▸ 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 | <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care.</p> <ul style="list-style-type: none"> ▸ Wear chemical protective gloves, e.g. PVC. ▸ Wear safety footwear or safety gumboots, e.g. Rubber |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▸ Overalls. ▸ P.V.C. apron. ▸ Barrier cream. |
| Thermal hazards | Not Available |

Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|------------------------|
| up to 10 x ES | A-AUS | - | A-PAPR-AUS / Class 1 |
| up to 50 x ES | - | A-AUS / Class 1 | - |
| up to 100 x ES | - | A-2 | A-PAPR-2 ^ |

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|---|--|--|-----------------------------------|
| Appearance | Clear liquid with a mild odour; does not mix with water. | | |
| Physical state | Liquid | Relative density (Water = 1) | 0.834 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | Not Applicable | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | -55 (pour point) | Viscosity (cSt) | 62.0 @ 40 deg.C; 10.1 @ 100 deg.C |
| Initial boiling point and boiling range (°C) | >316 | Molecular weight (g/mol) | Not Available |
| Flash point (°C) | 245 (ASTM D-92) | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Available | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Available | Volatile Component (%vol) | Not Available |

| | | | |
|---------------------------|-------------------|-----------------------|----------------|
| Vapour pressure (kPa) | <0.013 @ 20 deg.C | Gas group | Not Available |
| Solubility in water (g/L) | Immiscible | pH as a solution (1%) | Not Applicable |
| Vapour density (Air = 1) | >2.0 @ 15 deg.C | VOC g/L | Not Available |

SECTION 10 STABILITY AND REACTIVITY

| | |
|------------------------------------|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> 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 is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. |
| Ingestion | Accidental ingestion of the material may be damaging to the health of the individual. |
| Skin Contact | The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives. |
| Eye | There is some evidence to suggest that this material can cause eye irritation and damage in some persons. |
| Chronic | Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. |

| | | |
|---|---|-----------------------|
| A-Gas ERG1000 Premium Synthetic Refrigeration Oil | TOXICITY | IRRITATION |
| | Dermal (None) LD50: >2000 mg/kg ^[2] | Eye : Not irritating |
| | Oral (None) LD50: >2000 mg/kg ^[2] | Skin : Not irritating |
| mineral oil | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances | |

| | |
|-------------|--|
| MINERAL OIL | <p>Toxicity and Irritation data for petroleum-based mineral oils are related to chemical components and vary as does the composition and source of the original crude.</p> <p>A small but definite risk of occupational skin cancer occurs in workers exposed to persistent skin contamination by oils over a period of years. This risk has been attributed to the presence of certain polycyclic aromatic hydrocarbons (PAH) (typified by benz[a]pyrene).</p> <p>Petroleum oils which are solvent refined/extracted or severely hydrotreated, contain very low concentrations of both.</p> |
|-------------|--|

| | | | |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity | ✓ | Carcinogenicity | ⊗ |
| Skin Irritation/Corrosion | ⊗ | Reproductivity | ⊗ |
| Serious Eye Damage/Irritation | ✓ | STOT - Single Exposure | ⊗ |
| Respiratory or Skin sensitisation | ⊗ | STOT - Repeated Exposure | ⊗ |
| Mutagenicity | ⊗ | Aspiration Hazard | ⊗ |

Legend: ✗ – Data available but does not fill the criteria for classification
✓ – Data available to make classification
⊗ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

| A-Gas ERG1000 Premium Synthetic Refrigeration Oil | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|----------|--------------------|---------|-------|--------|
|---|----------|--------------------|---------|-------|--------|

| | | | | | |
|--|---------------|--------------------|---------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| mineral oil | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data | | | | | |

DO NOT discharge into sewer or waterways.

Persistence and degradability

| | | |
|------------|---------------------------------------|---------------------------------------|
| Ingredient | Persistence: Water/Soil | Persistence: Air |
| | No Data available for all ingredients | No Data available for all ingredients |

Bioaccumulative potential

| | |
|------------|---------------------------------------|
| Ingredient | Bioaccumulation |
| | No Data available for all ingredients |

Mobility in soil

| | |
|------------|---------------------------------------|
| Ingredient | Mobility |
| | No Data available for all ingredients |

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|------------------------------|--|
| Product / Packaging disposal | <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> ▸ Reduction ▸ Reuse ▸ Recycling ▸ Disposal (if all else fails) <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p> <ul style="list-style-type: none"> ▸ DO NOT allow wash water from cleaning or process equipment to enter drains. ▸ It may be necessary to collect all wash water for treatment before disposal. ▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▸ Where in doubt contact the responsible authority. ▸ Recycle wherever possible. ▸ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. ▸ Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material). ▸ Decontaminate empty containers. |
|------------------------------|--|

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 and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

MINERAL OIL(NOT AVAILABLE) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards

Australia Hazardous Substances Information System - Consolidated Lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

| National Inventory | Status |
|-------------------------------|--|
| Australia - AICS | N (mineral oil) |
| Canada - DSL | N (mineral oil) |
| Canada - NDSL | N (mineral oil) |
| China - IECSC | N (mineral oil) |
| Europe - EINEC / ELINCS / NLP | N (mineral oil) |
| Japan - ENCS | N (mineral oil) |
| Korea - KECI | N (mineral oil) |
| New Zealand - NZIoC | N (mineral oil) |
| Philippines - PICCS | N (mineral oil) |
| USA - TSCA | N (mineral oil) |
| Legend: | <i>Y = All ingredients are on the inventory</i> <i>N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i> |

SECTION 16 OTHER INFORMATION

Other information

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.

The 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.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average

PC—STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit.

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

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