



# SAFETY DATA SHEET

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Issue Date: 25 May 2017  
Radiator Treatment  
Version: 3

**Product name: Radiator Treatment**

## 1. COMPANY DETAILS AND PRODUCT IDENTIFICATION

COMPANY: Hi-Tec Oil Traders Pty Ltd. (ABN 28 053 837 362)

ADDRESS: PO Box 322 Castle Hill NSW 1765  
5 Tarlington Place, Smithfield NSW 2164

TELEPHONE NUMBER: 1300 796 009

FAX NUMBER: (02) 9604 1611

EMERGENCY TELEPHONE NUMBER: 1300 796 009

PRODUCT NAME: Radiator Treatment

OTHER NAMES: None

MANUFACTURER'S PRODUCT CODE: HI8-3400

USE: Corrosion inhibitor for the cooling systems of engines

ADDITIONAL INFORMATION: Refer to Product Information Sheet for additional information.

OTHER INFORMATION: Visit our website: [www.hi-tecoils.com.au](http://www.hi-tecoils.com.au)  
Email: hitecoils@hi-tecoils.com.au

## 2. HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION: HAZARDOUS SUBSTANCE  
NON-DANGEROUS GOODS  
Hazard classification according to criteria of NOHSC and GHS  
Dangerous goods classification according to Australian Dangerous Goods Code.

POISON SCHEDULE: Not applicable

CLASSIFICATION: Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Reproductive Toxicity Category 2.



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## 2. HAZARDS IDENTIFICATION (CONT)

### GHS LABEL ELEMENTS



SIGNAL WORD(S):

**WARNING**

### GHS HAZARD CLASSIFICATIONS

HAZARD STATEMENTS:

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H361: Suspected of damaging fertility or the unborn child.

PREVENTION STATEMENTS:

P201: Obtain special instructions before use.

P281: Use personal protective equipment as required.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

RESPONSE STATEMENTS:

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

P362: Take off contaminated clothing and wash before reuse.

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.

STORAGE STATEMENT:

P405: Store locked up.

DISPOSAL STATEMENT:

P501: Dispose of contents/container in accordance with local regulations.

## 3. IDENTIFICATION / COMPOSITION OF INGREDIENTS

Ingredients	CAS No	Conc, %
2-Ethylhexanoic acid (2-EH Acid)	149-57-5	approx 10-30
Sebacic acid	111-20-6	2-3
Tolytriazole	29385-43-1	<1
Bitrex 25% (25% Denatonium benzoate in MEG)	3734-33-6	0.01



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### 4. FIRST AID MEASURES

**GENERAL INFORMATION:**

Call the POISONS INFORMATION CENTRE if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 11 26 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

**INHALATION:**

If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.

**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.

**EYE CONTACT:**

If this product comes in contact with the eyes, 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.

**INGESTION:**

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.

**NOTE TO PHYSICIAN:**

Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

**FIRE AND EXPLOSION HAZARDS:**

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).

Combustion products include: carbon dioxide (CO<sub>2</sub>) and other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

May emit corrosive fumes.

**EXTINGUISHING MEDIA:**

Foam. Dry chemical powder. BCF (where regulations permit). Carbon dioxide.

**FIRE INCOMPATIBILITY:**

Avoid contamination with oxidising agents. ie. Nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

**FIRE FIGHTING:**

Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area.

**HAZCHEM:**

Not applicable.





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## 6. ACCIDENTAL RELEASE MEASURES

**MINOR SPILLS:** Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment.

**MAJOR SPLILLS:** 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 precautions, protective equipment and emergency procedures - See section 8**

**Environmental precautions - See section 12**

## 7. HANDLING AND STORAGE

**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. Prevent concentration in hollows and sumps.

**SAFE STORAGE:** Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area.

**SUITABLE CONTAINER:** Metal can or drum. Packaging as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.

**STORAGE INCOMPATIBILITY:** Avoid strong bases. Avoid reaction with oxidising agents.



X Must not be stored together  
O May be stored together with specific preventions  
+ May be stored together

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**CONTROL PARAMETERS:** Occupational Exposure Limits (OEL)  
Ingredient Data - Not Available

**EMERGENCY LIMITS:**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
2-Ethylhexanoic acid (2-EH Acid)	Ethyl hexanoic acid, 2-; (Butyl ethyl acetic acid)	15mg/m3	140 mg/m3	590 mg/m3
Tolytriazole	Methyl-1H-benzotriazole	2mg/m3	22 mg/m3	130 mg/m3





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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONT)

Ingredient	Original IDLH	Revised IDLH
2-Ethylhexanoic acid (2-EH Acid)	Not Available	Not Available
Sebacic acid	Not Available	Not Available
Tolytriazole	Not Available	Not Available
Britex 25% (25% Denatonium benzoate in MEG)	Not Available	Not Available

### 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:

Safety gloves: neoprene, nitrile or PVC. Safety footwear. PVC aprons or overalls. Respirator with type A filter. Barrier cream.

### EYE/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.

### HAND/FEET PROTECTION:

Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber. 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. 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. Personal hygiene is a key element of effective hand care.

### THERMAL HAZARDS:

Not available.



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## 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION & COLOUR:	Clear green liquid.
ODOUR:	Slight
ODOUR THRESHOLD:	Not available
BOILING POINT:	Not available
FREEZING/MELTING POINT(°C) :	Not available
FLASH POINT (°C):	Not available
VAPOUR DENSITY (AIR=1):	Not available
RELATIVE DENSITY (WATER = 1):	1.05-1.07
WATER SOLUBILITY (g/L):	Not available
pH (as supplied):	9
AUTO-IGNITION TEMPERATURE (°C):	Not available
DECOMPOSITION TEMPERATURE (°C):	Not available
VISCOSITY:	Not available
PARTITION COEFFICIENT:	Not available
FLAMMABILITY:	Combustible
VOLATILE COMPONENT:	Not available
EXPLOSIVE PROPERTIES:	Not available
EXPLOSIVE UPPER/LOWER LIMITS (%):	Not available
EVAPORATION RATE:	Not available
OXIDISING PROPERTIES:	Not available
GAS GROUP:	Not available
VOC (g/L):	Not available



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### 10. STABILITY AND REACTIVITY

REACTIVITY:	See section 7.
CONDITIONS TO AVOID:	See section 7.
CHEMICAL STABILITY:	Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
INCOMPATIBLE MATERIALS:	See section 7.
POSSIBLE HAZARDOUS REACTIONS:	See section 7.
HAZARDOUS DECOMPOSITION PRODUCTS	See section 5.

### 11. TOXICOLOGICAL INFORMATION

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:	Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. 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, puncture wounds 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:	Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.



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## 11. TOXICOLOGICAL INFORMATION (CONT)

### CHRONIC:

Exposure to the material may cause concerns for humans owing to possible developmental toxic effects, generally on the basis that results in appropriate animal studies provide strong suspicion of developmental toxicity in the absence of signs of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not a secondary non-specific consequence of other toxic effects. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

### 2-Ethylhexanoic acid (2-EH Acid)

dermal (rat) LD50: >2000 mg/kg  
Oral (rat) LD50: 2043 mg/kg

### TOXICITY IRRITATION

Eye (rabbit): 4.5 mg SEVERE  
Skin (rabbit): 10 mg/24h mild  
Skin (rabbit): 450 mg open mild

### Sebacic acid

dermal (rat) LD50: >2000 mg/kg  
Oral (rat) LD50: >5000 mg/kg

Not Available

### Tolyltriazole

Dermal (rabbit) LD50: >2000 mg/kg  
Oral (rat) LD50: 675 mg/kg

Not Available

### Bitrex 25% (25% Denatonium benzoate in MEG)

Oral (rat) LD50: 584 mg/kg

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

### 2-Ethylhexanoic acid (2-EH Acid)

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

### Sebacic acid

For dibasic acids (C7-14) (as represented by Corfree M1\* (a mixture of dibasic acids, CAS 72162-23-3), sebacic acid (CAS 111-20-6), dodecanedioic acid (DDDA, CAS 693-23-2), undecanedioic acid (CAS 1852-04-6). **Acute toxicity:** Acute toxicity data indicate that the chemicals exhibit similar acute toxicity. Acute oral toxicity LD50s of > 5000 mg/kg and > 3000 mg/kg have been measured for Corfree M1 and DDDA, respectively. These values represent the highest levels tested in their respective acute oral studies.





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## 11. TOXICOLOGICAL INFORMATION (CONT)

### Bitrex 25% (25% Denatonium benzoate in MEG)

Most undiluted cationic surfactants satisfy the criteria for classification as Harmful (Xn) with R22 and as Irritant (Xi) for skin and eyes with R38 and R41. For quaternary ammonium compounds (QACs): Quaternary ammonium compounds (QACs) are cationic surfactants. They are synthetic organically tetra-substituted ammonium compounds, where the R substituents are alkyl or heterocyclic radicals. A common characteristic of these synthetic compounds is that one of the R's is a long-chain hydrophobic aliphatic residue. The cationic surface active compounds are in general more toxic than the anionic and non-ionic surfactants. The positively-charged cationic portion is the functional part of the molecule and the local irritation effects of QACs appear to result from the quaternary ammonium cation. Somnolence, tremor, ataxia recorded.

### 2-Ethylhexanoic acid (2-EH Acid) & Sebacic acid & Bitrex 25% (25% Denatonium benzoate in MEG)

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.

## 12. ECOLOGICAL INFORMATION

### TOXICITY:

DO NOT discharge into sewer or waterways.

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
2-Ethylhexanoic acid (2-EH Acid)	LC50	96	Fish	48.777mg/L	3
2-Ethylhexanoic acid (2-EH Acid)	EC50	48	Crustacea	=85.4mg/L	1
2-Ethylhexanoic acid (2-EH Acid)	EC50	96	Algae or other aquatic plants	=41mg/L	1
2-Ethylhexanoic acid (2-EH Acid)	EC50	384	Crustacea	11.962mg/L	3
2-Ethylhexanoic acid (2-EH Acid)	NOEC	504	Crustacea	18mg/L	2



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## 12. ECOLOGICAL INFORMATION (CONT)

Sebacic acid	LC50	96	Fish	249.571mg/L	3
Sebacic acid	EC50	96	Algae or other aquatic plants	681.937mg/L	3
Sebacic acid	EC50	384	Crustacea	60.130mg/L	3

**Legend:** Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information – Aquatic Toxicity 3. EPIWIN Suite V3.12 - 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

### PERSISTENCE AND DEGRADABILITY:

Ingredient	Persistence: Water/Soil	Persistence: Air
2-Ethylhexanoic acid (2-EH Acid)	LOW	LOW
Sebacic acid	LOW	LOW

### BIOACCUMULATIVE POTENTIAL:

Ingredient	Bioaccumulation
2-Ethylhexanoic acid (2-EH Acid)	LOW (LogKOW = 2.64)
Sebacic acid	LOW (LogKOW = 2.1923)

### MOBILITY IN SOIL:

Ingredient	Mobility
2-Ethylhexanoic acid (2-EH Acid)	LOW (KOC = 24.06)
Sebacic acid	LOW (KOC = 248.5)

## 13. DISPOSAL CONSIDERATIONS

### PRODUCT/PACKAGING DISPOSAL:

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

**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 or consult manufacturer for recycling options. Consult State Land Waste Authority for disposal. Bury or incinerate residue at an approved site. Recycle containers if possible, or dispose of in an authorised landfill.





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### 14. TRANSPORT INFORMATION

MARINE POLLUTANT:	No.
HAZCHEM:	Not applicable.
ROAD & RAIL TRANSPORT: ADG REQUIREMENT	Not regulated for Transport of Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
MARITIME TRANSPORT: IMO/IMDG REQUIREMENT	Not regulated for Transport of Dangerous Goods according to the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.
AIR TRANSPORT: ICAO/IATA REQUIREMENT	Not regulated for Transport of Dangerous Goods according to the criteria of the International Maritime Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.
Transport in bulk according to Annex II of MARPOL and the IBC code.	

### 15. REGULATORY INFORMATION

POISONS SCHEDULE:	S5
PACKING & LABELLING:	Refer to Section 14
REGULATORY LISTS: 2-Ethylhexanoic Acid (2-EH acid) (149-57-5)	Australian Hazardous Substances Information System – Consolidated Lists. Australian Inventory of Chemical Substances (AICS)
Sebacic Acid (111-20-6)	Australian Inventory of Chemical Substances (AICS)
Tolyltriazole (29385-43-1)	Australian Inventory of Chemical Substances (AICS)
Britex 25% (3734-33-6) (25% Denatonium Benzoatein MEG)	Australian Inventory of Chemical Substances (AICS)



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## 16. OTHER INFORMATION

**CONTACT PERSON/POINT:**

General Manager 1300 796 009

This information was prepared in good faith from the best information available at the time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions.

If you are an employer it is your duty to tell your employees, and any others that may be affected, of any hazards described in this sheet and of any precautions that should be taken.

Safety Data Sheets are updated frequently. Please ensure you have a current copy.

**LITERATURE REFERENCES:**

- \* NOHSC: 2011 National Code of Practice for the preparation of Safety Data Sheets.
- \* NOHSC: 1008 Approved Criteria for Classifying Hazardous Substances.
- \* NOHSC: 10005 List of Designated Hazardous Substances.
- \* NOHSC: 1005 Control of Workplace Hazardous Substances, National Code of Practice.
- \* NOHSC: 2007 Control of Workplace Hazardous Substances, National Code of Practice.
- \* NOHSC: 1003 Exposure Standards for Atmospheric Contaminants in the Occupational Environment, National Exposure Standards.
- \* NOHSC: 3008 Exposure Standards for Atmospheric Contaminants in the Occupational Environment, Guidance Note.
- \* NOHSC: 1015 Storage and Handling of Workplace Dangerous Goods, National Standard.
- \* NOHSC: 2017 Storage and Handling of Workplace Dangerous Goods, National Code of Practice.
- \* SUSDP: Standard for the Uniform Scheduling of Drugs and Poisons
- \* ADG: Australian Dangerous Goods Code
- \* SDS of component materials.

**LAST CHANGE:**

Supersedes document issued: 24<sup>th</sup> July 2012

Reason/s for revision: Minor editorial changes to comply with GHS requirements.

**TN715052/1**

**END OF SDS**