

DANGER
KEEP OUT OF REACH OF CHILDREN



FLEECE MARK

Scourable Fleece Marker

For general purpose animal identification



Net Contents 190g
Shake well before use



FLEECE MARK

DIRECTIONS FOR USE

For animal treatment only. Hold can upright and spray from approximately 15cm for no more than 1 second. Apply only to the head or tail of the animal. Excessive applications are to be avoided as they may result in discolouration after scouring.

HAZARD STATEMENTS

DANGER: Extremely flammable aerosol. May cause damage to organs through prolonged or repeated exposure. May cause drowsiness or dizziness. Causes mild skin irritation. Risk of explosion if heated under confinement. BEWARE: Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

PREVENTION STATEMENTS

Keep out of reach of children. Read label before use. Keep container away from open flame and hot surfaces - no smoking. Do not spray on open flame or other ignition source. Pressurised container: Do not pierce or burn, even when empty. Do not breathe spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves, and eye/face protection.

RESPONSE STATEMENT

If skin irritation occurs, get medical attention. If medical attention is needed, have product container or label at hand. If Inhaled: Call a Poison Information Centre (0800 764 766) or doctor if you feel unwell.

STORAGE STATEMENTS

Store locked up in a well ventilated place and protect from sunlight. Do not expose to temperatures exceeding 50°C.

DISPOSAL STATEMENTS

Recycle empty containers if possible, or dispose to waste in accordance with local regulations. Avoid contamination of any water supply with product or empty container.



UN No. 1950, AEROSOLS.
Active constituent: n-hexane
1-10%, cyclohexane 10-30%
Propellant: Hydrocarbon

FIL is a wholly owned subsidiary
of GEA New Zealand,
72 Portside Drive, PO Box 4144,
Mt Maunganui, New Zealand

BARCODE

4733-062



GEA FIL FLEECE MARK SCOURABLE FLEECE MARKER

Damar Industries Limited

Chemwatch Hazard Alert Code: 4

Version No: 1.2
Safety Data Sheet according to HSNO Regulations

Issue Date: 26/01/2017
Print Date: 04/07/2017
S.GHS.NZL.EN

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

Product Identifier

| | |
|-------------------------------|---|
| Product name | GEA FIL FLEECE MARK SCOURABLE FLEECE MARKER |
| Synonyms | CNA3408,CNA3508,CNA3608,CNA3708,CNA6408 |
| Proper shipping name | AEROSOLS |
| Other means of identification | Not Available |

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

| | |
|--------------------------|-------------|
| Relevant identified uses | Stockmarker |
|--------------------------|-------------|

Details of the supplier of the safety data sheet

| | |
|-------------------------|---------------------------------------|
| Registered company name | Damar Industries Limited |
| Address | 800 Te Ngae Road BOP 3010 New Zealand |
| Telephone | +64 7 345 6007 |
| Fax | +64 7 345 6019 |
| Website | www.damarindustries.co.nz |
| Email | info@damarindustries.co.nz |

Emergency telephone number

| | |
|-----------------------------------|------------------------------------|
| Association / Organisation | CHEMCALL (0800 CHEMCALL) |
| Emergency telephone numbers | 0800 243 622 |
| Other emergency telephone numbers | 1800 243 622 (outside New Zealand) |

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Classified as Dangerous Goods for transport purposes.

CHEMWATCH HAZARD RATINGS

| | Min | Max |
|--------------|-----|-----|
| Flammability | 4 | 4 |
| Toxicity | 2 | 2 |
| Body Contact | 2 | 2 |
| Reactivity | 1 | 1 |
| Chronic | 2 | 2 |

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

| | |
|---|---|
| Classification [1] | Specific target organ toxicity - repeated exposure Category 2, Chronic Aquatic Hazard Category 3, Aerosols Category 1, Skin Corrosion/Irritation Category 3 |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI |
| Determined by Chemwatch using GHS/HSNO criteria | 9.1C, 6.3B, 6.9B, 2.1.2A |

Label elements

| | |
|---------------------|---------------|
| Hazard pictogram(s) | |
| SIGNAL WORD | DANGER |

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Hazard statement(s)

| | |
|-------------|--|
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H412 | Harmful to aquatic life with long lasting effects. |
| H222 | Extremely flammable aerosol. |
| H316 | Causes mild skin irritation |

Precautionary statement(s) Prevention

| | |
|-------------|--|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P211 | Do not spray on an open flame or other ignition source. |
| P251 | Pressurized container: Do not pierce or burn, even after use. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |

Precautionary statement(s) Response

| | |
|------------------|--|
| P314 | Get medical advice/attention if you feel unwell. |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |

Precautionary statement(s) Storage

| | |
|------------------|--|
| P410+P412 | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. |
|------------------|--|

Precautionary statement(s) Disposal

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

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|---------------|-----------|--|
| 74-98-6 | 10-30 | <u>propane</u> |
| 106-97-8 | 30-60 | <u>butane</u> |
| 110-82-7 | 10-30 | <u>cyclohexane</u> |
| Not Available | 1-10 | Pigments and other components not contributing to the classification |
| 110-54-3 | 1-10 | <u>n-hexane</u> |
| 108-87-2 | 1-10 | <u>methylcyclohexane</u> |

SECTION 4 FIRST AID MEASURES

NZ Poisons Centre 0800 POISON (0800 764 766) | NZ Emergency Services: 111

Description of first aid measures

| | |
|---------------------|---|
| Eye Contact | <p>If aerosols come in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold the eyelids apart and flush the eye 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. ▶ Generally not applicable. |
| Skin Contact | <p>If solids or aerosol mists are deposited upon the skin:</p> <ul style="list-style-type: none"> ▶ Flush skin and hair with running water (and soap if available). ▶ Remove any adhering solids with industrial skin cleansing cream. ▶ DO NOT use solvents. ▶ Seek medical attention in the event of irritation. |
| Inhalation | <p>If aerosols, fumes or combustion products are inhaled:</p> <ul style="list-style-type: none"> ▶ Remove to fresh air. ▶ 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. ▶ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor. |
| Ingestion | <p>Not considered a normal route of entry.</p> <ul style="list-style-type: none"> ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol. |

Indication of any immediate medical attention and special treatment needed

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- ▶ Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- ▶ Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO₂ 50 mm Hg) should be intubated.
- ▶ Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should

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- ▶ be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
 - ▶ A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
 - ▶ Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
 - ▶ Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology]
- Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

SMALL FIRE:

- ▶ Water spray, dry chemical or CO₂

LARGE FIRE:

- ▶ Water spray or fog.

Special hazards arising from the substrate or mixture

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

Advice for firefighters

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|------------------------------|--|
| Fire Fighting | <ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water course. <p>Slight hazard when exposed to heat, flame and oxidisers.</p> |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Liquid and vapour are highly flammable. ▶ Severe fire hazard when exposed to heat or flame. ▶ Vapour forms an explosive mixture with air. ▶ Severe explosion hazard, in the form of vapour, when exposed to flame or spark. <p>Combustion products include:</p> <ul style="list-style-type: none"> , carbon monoxide (CO) , carbon dioxide (CO₂) , other pyrolysis products typical of burning organic material. <p>May emit clouds of acrid smoke</p> <p>WARNING: Long standing in contact with air and light may result in the formation of potentially explosive peroxides.</p> <ul style="list-style-type: none"> ▶ Vented gas is more dense than air and may collect in pits, basements. |

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. ▶ Wear protective clothing, impervious gloves and safety glasses. ▶ Shut off all possible sources of ignition and increase ventilation. |
| Major Spills | <ul style="list-style-type: none"> ▶ Clear area of all unprotected personnel and move upwind. ▶ Alert Emergency Authority and advise them of the location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear full body clothing with breathing apparatus. ▶ Remove leaking cylinders to a safe place. ▶ Fit vent pipes. Release pressure under safe, controlled conditions ▶ Burn issuing gas at vent pipes. ▶ DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve. ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear breathing apparatus plus protective gloves. ▶ Clean up all spills immediately. ▶ Wear protective clothing, safety glasses, dust mask, gloves. ▶ Secure load if safe to do so. Bundle/collect recoverable product. |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

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|----------------------|--|
| 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. ▶ Prevent concentration in hollows and sumps. |
|----------------------|--|

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Other information

- ▶ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can
- ▶ Store in original containers in approved flammable liquid storage area.
- ▶ **DO NOT store in pits, depressions, basements or areas where vapours may be trapped.**
- ▶ No smoking, naked lights, heat or ignition sources.
- ▶ Keep containers securely sealed.
- ▶ Store away from incompatible materials.

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|---|
| Suitable container | <ul style="list-style-type: none"> ▶ Aerosol dispenser. ▶ Check that containers are clearly labelled. |
| Storage incompatibility | <p>Butane/ isobutane</p> <ul style="list-style-type: none"> ▶ reacts violently with strong oxidisers ▶ reacts with acetylene, halogens and nitrous oxides ▶ is incompatible with chlorine dioxide, conc. nitric acid and some plastics ▶ may generate electrostatic charges, due to low conductivity, in flow or when agitated - these may ignite the vapour. <p>Segregate from nickel carbonyl in the presence of oxygen, heat (20-40 C)</p> <p>Cyclohexane</p> <ul style="list-style-type: none"> ▶ reacts violently with strong oxidisers, nitrogen tetroxide ▶ may generate electrostatic charges, due to low conductivity, following flow or agitation <p>Propane:</p> <ul style="list-style-type: none"> ▶ reacts violently with strong oxidisers, barium peroxide, chlorine dioxide, dichlorine oxide, fluorine etc. ▶ liquid attacks some plastics, rubber and coatings ▶ may accumulate static charges which may ignite its vapours ▶ Avoid reaction with oxidising agents ▶ Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances |

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|--|-------------------|-------------------|-----------------------------------|----------------------------------|---------------|--|
| New Zealand Workplace Exposure Standards (WES) | propane | Propane | Not Available | Not Available | Not Available | Simple asphyxiant - may present an explosion hazard |
| New Zealand Workplace Exposure Standards (WES) | butane | Butane | 1,900 mg/m ³ / 800 ppm | Not Available | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | cyclohexane | Cyclohexane | 350 mg/m ³ / 100 ppm | 1050 mg/m ³ / 300 ppm | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | n-hexane | Hexane (n-Hexane) | 72 mg/m ³ / 20 ppm | Not Available | Not Available | (bio) - Exposure can also be estimated by biological monitoring. |
| New Zealand Workplace Exposure Standards (WES) | methylcyclohexane | Methylcyclohexane | 1,610 mg/m ³ / 400 ppm | Not Available | Not Available | Not Available |

EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|-------------------|-------------------|---------------|---------------|---------------|
| propane | Propane | Not Available | Not Available | Not Available |
| butane | Butane | Not Available | Not Available | Not Available |
| cyclohexane | Cyclohexane | 300 ppm | 1700 ppm | 10000 ppm |
| n-hexane | Hexane | 260 ppm | Not Available | Not Available |
| methylcyclohexane | Methylcyclohexane | 1200 ppm | 1700 ppm | 10000 ppm |

| Ingredient | Original IDLH | Revised IDLH |
|--|------------------|-----------------|
| propane | 20,000 [LEL] ppm | 2,100 [LEL] ppm |
| butane | Not Available | Not Available |
| cyclohexane | 10,000 ppm | 1,300 [LEL] ppm |
| Pigments and other components not contributing to the classification | Not Available | Not Available |
| n-hexane | 5,000 ppm | 1,100 [LEL] ppm |
| methylcyclohexane | 10,000 ppm | 1,200 [LEL] ppm |

Exposure controls

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|---|--|
| 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> |
|---|--|

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| Personal protection |  |
| Eye and face protection | <ul style="list-style-type: none"> Close fitting gas tight goggles DO NOT wear contact lenses. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. <p>No special equipment for minor exposure i.e. when handling small quantities.</p> <p>OTHERWISE: For potentially moderate or heavy exposures:</p> <ul style="list-style-type: none"> Safety glasses with side shields. NOTE: Contact lenses pose a special hazard; soft lenses may absorb irritants and ALL lenses concentrate them. <p>No special equipment required due to the physical form of the product.</p> <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>Wear general protective gloves, eg. light weight rubber gloves.</p> <ul style="list-style-type: none"> No special equipment needed when handling small quantities. OTHERWISE: For potentially moderate exposures: Wear general protective gloves, eg. light weight rubber gloves. For potentially heavy exposures: Wear chemical protective gloves, eg. PVC, and safety footwear. <p>No special equipment required due to the physical form of the product.</p> |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton. Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost. <p>BREThERICK: Handbook of Reactive Chemical Hazards.</p> <p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> Overalls. Skin cleansing cream. Eyewash unit. <p>No special equipment required due to the physical form of the product.</p> |
| Thermal hazards | Not Available |

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:

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| Material | CPI |
|-------------------|-----|
| PE/EVAL/PE | A |
| VITON | A |
| NITRILE | B |
| PVA | B |
| TEFLON | B |
| BUTYL | C |
| BUTYL/NEOPRENE | C |
| HYPALON | C |
| NEOPRENE | C |
| NEOPRENE/NATURAL | C |
| NITRILE+PVC | C |
| PVC | C |
| SARANEX-23 2-PLY | C |
| VITON/CHLOROBUTYL | C |

* 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.

Respiratory protection

Type AG 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 | AG-AUS | - | AG-PAPR-AUS / Class 1 |
| up to 50 x ES | - | AG-AUS / Class 1 | - |
| up to 100 x ES | - | AG-2 | AG-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)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
 - The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
 - Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
 - Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
 - Use approved positive flow mask if significant quantities of dust becomes airborne.
 - Try to avoid creating dust conditions.
 - Generally not applicable.
- Aerosols, in common with most vapours/ mists, should never be used in confined spaces

without adequate ventilation. Aerosols, containing agents designed to enhance or mask smell, have triggered allergic reactions in predisposed individuals.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|---|---|--|---------------|
| Appearance | Packed as liquid under pressure and remains liquid only under pressure. Sudden release of pressure or leakage may result in rapid vapourisation with generation of a large volume of highly flammable / explosive gas. Coloured aerosol spray with a strong solvent odour | | |
| Physical state | article | Relative density (Water = 1) | 0.60-0.63 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | 431 |
| pH (as supplied) | Not Available | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol) | Not Available |
| Flash point (°C) | -81 | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | HIGHLY FLAMMABLE. | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | 10 | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | 1.5 | Volatile Component (%vol) | Not Available |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water (g/L) | Immiscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | 1.8 | VOC g/L | Not Available |

SECTION 10 STABILITY AND REACTIVITY

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|---|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ Elevated temperatures. ▶ Presence of open flame. ▶ 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 | <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>In rabbits, lethal doses of methylcyclohexane produced conjunctival congestion, breathing difficulties, rapid unconsciousness and convulsions before death. Damage to cells is similar to that caused by cyclohexane.</p> <p>Inhalation of toxic gases may cause:</p> <ul style="list-style-type: none"> ▶ Central Nervous System effects including depression, headache, confusion, dizziness, stupor, coma and seizures; ▶ respiratory: acute lung swellings, shortness of breath, wheezing, rapid breathing, other symptoms and respiratory arrest; ▶ heart: collapse, irregular heartbeats and cardiac arrest; ▶ gastrointestinal: irritation, ulcers, nausea and vomiting (may be bloody), and abdominal pain. <p>Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure.</p> <p>Symptoms of asphyxia (suffocation) may include headache, dizziness, shortness of breath, muscular weakness, drowsiness and ringing in the ears. If the asphyxia is allowed to progress, there may be nausea and vomiting, further physical weakness and unconsciousness and, finally, convulsions, coma and death.</p> <p>WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.</p> <p>The paraffin gases are practically not harmful at low doses. Higher doses may produce reversible brain and nerve depression and irritation.</p> |
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| | Rabbits survived 8 hour exposures to cyclohexane at 18500 ppm but 26600 ppm was lethal after 1 hour exposure. A concentration of 12600 ppm produced severe weakness, unconsciousness, increased breathing and convulsions while 3330 ppm failed to elicit an effect. 300 ppm is reported to be irritating to human eyes and mucous membranes. |
| Ingestion | Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments Ingestion of methylcyclohexane may be harmful. Central nervous system depression and possible circulatory collapse may cause death. |
| Skin Contact | This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Repeated or prolonged contact with methylcyclohexane may result in itching, burning, redness, slight reduction in skin temperature, skin thickening and possible ulceration. Spray mist may produce discomfort 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 | Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn). Not considered to be a risk because of the extreme volatility of the gas. |
| Chronic | Substance accumulation, in the human body, is likely and may cause some concern following repeated or long-term occupational exposure. Harmful: danger of serious damage to health by prolonged exposure through inhalation. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility. Main route of exposure to the gas in the workplace is by inhalation. Due to almost complete elimination of methylcyclohexane from the body, the danger of chronic poisoning is relatively slight. Chronic inhalation or skin exposure to n-hexane may cause damage to nerve ends in extremities, e.g. finger, toes with loss of sensation. Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin. Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATTYS] |

| GEA FIL FLEECE MARK SCOURABLE FLEECE MARKER | TOXICITY | IRRITATION |
|---|--|-----------------------------------|
| | Not Available | Not Available |
| propane | TOXICITY | IRRITATION |
| | Inhalation (rat) LC50: >50000 ppm15 min ^[1] | Not Available |
| | Inhalation (rat) LC50: 35625 ppm15 min ^[1] | |
| | Inhalation (rat) LC50: 84.6875 mg/l15 min ^[1] | |
| butane | TOXICITY | IRRITATION |
| | Inhalation (rat) LC50: >50000 ppm15 min ^[1] | Not Available |
| | Inhalation (rat) LC50: 35625 ppm15 min ^[1] | |
| | Inhalation (rat) LC50: 84.6875 mg/l15 min ^[1] | |
| cyclohexane | TOXICITY | IRRITATION |
| | Oral (rat) LD50: 12705 mg/kg ^[2] | Skin(rabbit): 1548 mg/48hr - mild |
| | | |
| | | |
| n-hexane | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: >2000 mg/kg ^[1] | Eye(rabbit): 10 mg - mild |
| | Inhalation (rat) LC50: 48000 ppm/4hr ^[2] | |
| methylcyclohexane | TOXICITY | IRRITATION |
| | Inhalation (rabbit) LC50: 3806.75 ppm/1hr ^[2] | Not Available |
| | Oral (rat) LD50: >3200 mg/kg ^[2] | |

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

| | |
|------------------------|---|
| PROPANE | No significant acute toxicological data identified in literature search. |
| CYCLOHEXANE | Bacteria mutagen |
| N-HEXANE | The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. |
| Acute Toxicity | ☞ |
| Carcinogenicity | ☞ |

GEA FIL FLEECE MARK SCOURABLE FLEECE MARKER

| | | | |
|-----------------------------------|---|--------------------------|---|
| 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

| GEA FIL FLEECE MARK SCOURABLE FLEECE MARKER | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|----------|--------------------|-------------------------------|----------------|----------------|
| | | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| propane | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | LC50 | 96 | Fish | 10.307mg/L | 3 |
| | EC50 | 96 | Algae or other aquatic plants | 32.252mg/L | 3 |
| butane | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | LC50 | 96 | Fish | 5.862mg/L | 3 |
| | EC50 | 96 | Algae or other aquatic plants | 15.346mg/L | 3 |
| cyclohexane | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | LC50 | 96 | Fish | 1.967mg/L | 3 |
| | EC50 | 48 | Crustacea | 0.9mg/L | 2 |
| | EC50 | 72 | Algae or other aquatic plants | 3.4mg/L | 2 |
| | EC90 | 72 | Algae or other aquatic plants | >500mg/L | 1 |
| n-hexane | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | LC50 | 96 | Fish | 1.674mg/L | 3 |
| | EC50 | 48 | Crustacea | 3877.65mg/L | 4 |
| methylcyclohexane | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | LC50 | 96 | Fish | 1.152mg/L | 3 |
| | EC50 | 48 | Crustacea | 0.326mg/L | 2 |
| | EC50 | 72 | Algae or other aquatic plants | 0.134mg/L | 2 |
| | NOEC | 72 | Algae or other aquatic plants | 0.0221mg/L | 2 |

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

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

For Butane (Synonym: n-Butane): Log Kow: 2.89; Koc: 450-900; Henry's Law Constant: 0.95 atm-cu m/mole, Vapor Pressure: 1820 mm Hg; BCF: 1.9.

Atmospheric Fate: Butane is expected to exist only as a gas in the ambient atmosphere. Gas-phase n-butane is degraded in the atmosphere by reaction with hydroxyl radicals; the half-life for this reaction in air is estimated to be 6.3 days, (@ 25 C). Butane is not expected to absorb UV light and probably will probably not be broken down directly by sunlight in the atmosphere.

For Cyclohexanes: log Kow: 3.44; Water Solubility: 54.8 mg/L (25 C); Vapor Pressure: 97.6 mm Hg (25 C); Henry's Law Constant: 0.193 atm-m³/mole; Koc: 480; Half-life (hr) air: 6-52; Half-life (hr) H₂O surface water: 2; ThOD: 3.42. BCF: 242.

Atmospheric Fate: In the atmosphere, cyclohexane will degrade by reaction with photochemically produced hydroxyl radicals (half-life 52 hours). Photodegradation occurs in about 6 hours in the presence of nitrogen oxides (photochemical smog conditions).

For Propane: Koc 460. log

Kow 2.36.

Henry's Law constant of 7.07x10⁻¹ atm-cu m/mole, derived from its vapour pressure, 7150 mm Hg, and water solubility, 62.4 mg/L. Estimated BCF: 13.1.

DO NOT discharge into sewer or waterways.

For n-Hexane: Log Kow: 3.17-3.94; Henry's Law Constant: 1.69 atm-m³ mol; Vapor Pressure: 150 mm Hg @ 25 C; Log Koc: 2.90 to 3.61. BOD 5, (if unstated): 2.21; COD: 0.04; ThOD: 3.52.

Atmospheric Fate: n-Hexane is not expected to be directly broken down by sunlight. The main atmospheric removal mechanism is through reactions with hydroxyl radicals, with an approximant half-life of 2.9 days.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------|-------------------------|------------------|
| propane | LOW | LOW |
| butane | LOW | LOW |

Continued...

GEA FIL FLEECE MARK SCOURABLE FLEECE MARKER

| | | |
|-------------------|-----------------------------|-----------------------------|
| cyclohexane | HIGH (Half-life = 360 days) | LOW (Half-life = 3.63 days) |
| n-hexane | LOW | LOW |
| methylcyclohexane | LOW | LOW |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|-------------------|-----------------------|
| propane | LOW (LogKOW = 2.36) |
| butane | LOW (LogKOW = 2.89) |
| cyclohexane | LOW (BCF = 242) |
| n-hexane | MEDIUM (LogKOW = 3.9) |
| methylcyclohexane | LOW (BCF = 321) |

Mobility in soil

| Ingredient | Mobility |
|-------------------|-------------------|
| propane | LOW (KOC = 23.74) |
| butane | LOW (KOC = 43.79) |
| cyclohexane | LOW (KOC = 165.5) |
| n-hexane | LOW (KOC = 149) |
| methylcyclohexane | LOW (KOC = 268) |

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|-------------------------------------|--|
| Product / Packaging disposal | <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. ▶ Consult State Land Waste Management Authority for disposal. ▶ Discharge contents of damaged aerosol cans at an approved site. ▶ Allow small quantities to evaporate. ▶ DO NOT incinerate or puncture aerosol cans. |
|-------------------------------------|--|

Ensure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

SECTION 14 TRANSPORT INFORMATION

Labels Required

| | |
|---|----------------|
|  | |
| Marine Pollutant | NO |
| HAZCHEM | Not Applicable |

Land transport (UN)

| | | | | | |
|-------------------------------------|---|--------------------|-----------------------------|------------------|----------------|
| UN number | 1950 | | | | |
| UN proper shipping name | AEROSOLS | | | | |
| Transport hazard class(es) | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Class</td> <td>2.1</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Subrisk</td> <td>Not Applicable</td> </tr> </table> | Class | 2.1 | Subrisk | Not Applicable |
| Class | 2.1 | | | | |
| Subrisk | Not Applicable | | | | |
| Packing group | Not Applicable | | | | |
| Environmental hazard | Not Applicable | | | | |
| Special precautions for user | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Special provisions</td> <td>63; 190; 277; 327; 344; 381</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Limited quantity</td> <td>1000ml</td> </tr> </table> | Special provisions | 63; 190; 277; 327; 344; 381 | Limited quantity | 1000ml |
| Special provisions | 63; 190; 277; 327; 344; 381 | | | | |
| Limited quantity | 1000ml | | | | |

Air transport (ICAO-IATA / DGR)

| | | | | | | | |
|-----------------------------------|---|-----------------|-----|---------------------|----------------|----------|-----|
| UN number | 1950 | | | | | | |
| UN proper shipping name | Aerosols, flammable; Aerosols, flammable (engine starting fluid) | | | | | | |
| Transport hazard class(es) | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ICAO/IATA Class</td> <td>2.1</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ERG Code</td> <td>10L</td> </tr> </table> | ICAO/IATA Class | 2.1 | ICAO / IATA Subrisk | Not Applicable | ERG Code | 10L |
| ICAO/IATA Class | 2.1 | | | | | | |
| ICAO / IATA Subrisk | Not Applicable | | | | | | |
| ERG Code | 10L | | | | | | |

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| | | |
|-------------------------------------|---|------------------------------|
| Packing group | Not Applicable | |
| Environmental hazard | Not Applicable | |
| Special precautions for user | Special provisions | A145A167A802; A1A145A167A802 |
| | Cargo Only Packing Instructions | 203 |
| | Cargo Only Maximum Qty / Pack | 150 kg |
| | Passenger and Cargo Packing Instructions | 203; Forbidden |
| | Passenger and Cargo Maximum Qty / Pack | 75 kg; Forbidden |
| | Passenger and Cargo Limited Quantity Packing Instructions | Y203; Forbidden |
| | Passenger and Cargo Limited Maximum Qty / Pack | 30 kg G; Forbidden |

Sea transport (IMDG-Code / GGVSee)

| | | |
|-------------------------------------|--------------------|----------------------------|
| UN number | 1950 | |
| UN proper shipping name | AEROSOLS | |
| Transport hazard class(es) | IMDG Class | 2.1 |
| | IMDG Subrisk | Not Applicable |
| Packing group | Not Applicable | |
| Environmental hazard | Not Applicable | |
| Special precautions for user | EMS Number | F-D, S-U |
| | Special provisions | 63 190 277 327 344 381 959 |
| | Limited Quantities | 1000ml |

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

This substance is to be managed using the conditions specified in an applicable Group Standard

| HSR Number | Group Standard |
|------------|--|
| HSR002515 | Aerosols (Flammable) Group Standard 2006 |

PROPANE(74-98-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

BUTANE(106-97-8.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

CYCLOHEXANE(110-82-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

N-HEXANE(110-54-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

METHYLCYCLOHEXANE(108-87-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

Location Test Certificate

Subject to Regulation 55 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations, a location test certificate is required when quantity greater than or equal to those indicated below are present.

| Hazard Class | Quantity beyond which controls apply for closed containers | Quantity beyond which controls apply when use occurring in open containers |
|--------------|--|--|
| 2.1.2A | 3 000 L (aggregate water capacity) | 3 000 L (aggregate water capacity) |

Approved Handler

Subject to Regulation 56 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations and Regulation 9 of the Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations, the

Continued...

GEA FIL FLEECE MARK SCOURABLE FLEECE MARKER

substance must be under the personal control of an Approved Handler when present in a quantity greater than or equal to those indicated below.

| Class of substance | Quantities |
|--------------------|----------------------------------|
| 2.1.2A | 3 000 L aggregate water capacity |

Refer Group Standards for further information

Tracking Requirements

Not Applicable

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

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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