

Classified as hazardous in accordance with the criteria of EPA New Zealand

Section 1 - Identification

Product Identifier

| | |
|-----------------------------|--------------------------|
| Product Name | <u>Benzyltoluene</u> |
| CAS No | 27776-01-8 |
| Synonyms | Marlotherm LH |
| Molecular Formula | C14 H14 |
| Molecular Weight | 182.27 |
| Recommended Use | Laboratory chemicals. |
| Uses advised against | No Information available |

| | |
|--------------------------------|---|
| Product Code | 473430000; 473432500; 473430010 |
| Address | Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand |
| Emergency Tel. | CHEMTREC® 09 980 6780 or +64 9 980 6780 |
| Telephone / Fax Numbers | Tel: 09 980 6700 Fax: 09 980 6788 |
| E-mail address | <u>ANZinfo@thermofisher.com</u> |

Section 2 - Hazard(s) Identification

Classification under Work Safe New Zealand

Classified as hazardous in accordance with the criteria of EPA New Zealand

GHS Classification

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

| | |
|---------------------------|-------------|
| Aspiration Toxicity | Category 1 |
| Skin Corrosion/Irritation | Category 2 |
| Reproductive Toxicity | Category 1B |

Environmental hazards

| | |
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| Chronic aquatic toxicity | Category 2 |
|--------------------------|------------|

Label Elements



Signal Word

Danger

Hazard Statements

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H360 - May damage fertility or the unborn child

H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements**Prevention**

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear eye protection/ face protection

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P273 - Avoid release to the environment

Response

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

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

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

P331 - Do NOT induce vomiting

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash it before reuse

P391 - Collect spillage

Storage

P403 - Store in a well-ventilated place

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards which do not result in classification

Section 3 - Composition and Information on Ingredients

| Component | CAS No | Weight % |
|---------------------------------------|------------|------------|
| Benzene, methyl(phenylmethyl)- | 27776-01-8 | >90 - <100 |
| Dibenzylbenzene, ar-methyl derivative | 53585-53-8 | <1 |

Section 4 - First Aid Measures

Description of first aid measures**General Advice**

If symptoms persist, call a physician.

New Zealand Emergency Tel.CHEMTREC®
09 980 6780 or +64 9 980 6780**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if

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| | symptoms occur. Risk of serious damage to the lungs (by aspiration). |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward. |
| Self-Protection of the First Aider | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |
| First Aid Facilities | Eyewash, safety shower and washroom. |
| Most important symptoms and effects | None reasonably foreseeable. |
| Notes to Physician | Treat symptomatically. |

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

None under normal use conditions.

Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required.

Environmental Precautions

Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling**Advice on safe handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

Conditions for Safe Storage, Including any Incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials

Oxidizing agent.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Control parameters**Exposure limits**

The product does not contain any hazardous materials with occupational exposure limits established.

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Appropriate engineering controls**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Individual protection measures, such as personal protective equipment**Eye Protection**

Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments |
|---|--------------------------------------|-----------------|-----------------|-----------------------|
| Nitrile rubber, Neoprene, Natural rubber, PVC. | See manufacturers recommendations | - | AS/NZS 2161 | (minimum requirement) |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection

Long sleeved clothing

Respiratory Protection

Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or

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| Recommended Filter type: | other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices Organic gases and vapours filter Type A Brown conforming to EN14387 (or AUS/NZ equivalent) |
| Recommended half mask:- | Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141 (or AUS/NZ equivalent) When RPE is used a face piece Fit Test should be conducted |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |
| Environmental exposure controls | Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. |

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

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| Physical State | Liquid | |
| Appearance | Colorless | |
| Odor | No information available | |
| Odor Threshold | No data available | |
| pH | Not applicable | |
| Melting Point/Range | -80 - -70 °C / -112 - -94 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | 280 - 290 °C / 536 - 554 °F | (1,013 hPa) |
| Flammability (liquid) | No data available | |
| Flammability (solid,gas) | Not applicable | Liquid |
| Explosion Limits | No data available | |
| Flash Point | 137 °C / 278.6 °F | Method - No information available |
| Autoignition Temperature | 510 °C / 950 °F | |
| Decomposition Temperature | No data available | |
| Viscosity | No data available | |
| Water Solubility | No information available | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Component | log Pow | |
| Benzene, methyl(phenylmethyl)- | 4.872 - 4.935 | |
| Dibenzylbenzene, ar-methyl derivative | >6 | |
| Vapor Pressure | No data available | |
| Density / Specific Gravity | No data available | |
| Bulk Density | Not applicable | Liquid |
| Vapor Density | No data available | (Air = 1.0) |
| Particle characteristics | Not applicable (liquid) | |

Other information

| | |
|--------------------------|---------|
| Molecular Formula | C14 H14 |
| Molecular Weight | 182.27 |

Section 10 - Stability and Reactivity

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|---|--|
| Reactivity | None known, based on information available |
| Stability | Light sensitive. heat sensitive. |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

| | |
|---|---|
| Hazardous Polymerization | No information available. |
| Hazardous Reactions | None under normal processing. |
| Conditions to Avoid | Heat, Extremes of temperature and direct sunlight, Incompatible products. |
| Incompatible Materials | Oxidizing agent. |
| Hazardous Decomposition Products | None under normal use conditions. |

Section 11 - Toxicological Information

Acute Effects

Information on likely routes of exposure

Product Information

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|-------------------|---|
| Inhalation | Not an expected route of exposure. |
| Eyes | Avoid contact with eyes. May cause irritation. |
| Skin | Avoid contact with skin. May cause irritation. |
| Ingestion | May be harmful if swallowed. Harmful if swallowed. Potential for aspiration if swallowed. |

Numerical measures of toxicity

(a) acute toxicity;

| | |
|-------------------|--|
| Oral | Based on available data, the classification criteria are not met |
| Dermal | Based on available data, the classification criteria are not met |
| Inhalation | Based on available data, the classification criteria are not met |

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------------------------------|---------------------------|---------------------------|-----------------|
| Benzene, methyl(phenylmethyl)- | LD50 = 3015 mg/kg (Rat) | LD50 > 4 mL/kg (Rat) | |
| Dibenzylbenzene, ar-methyl derivative | | LD50 > 2000 mg/kg (Rat) | |

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

| | |
|--------------------|-------------------|
| Respiratory | No data available |
| Skin | No data available |

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Category 1B

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs None known.

(j) aspiration hazard; Category 1

Symptoms / effects, both acute and delayed

No information available.

Section 12 - Ecological Information

Ecotoxicity

Aquatic ecotoxicity

The product contains following substances which are hazardous for the environment.
Contains a substance which is: Very toxic to aquatic organisms.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|--------------------------------|---|------------|------------------|----------|
| Benzene, methyl(phenylmethyl)- | LC50: > 267 µg/L, 96h semi-static (Danio rerio) | | | |

Terrestrial ecotoxicity

There is no data for this product

Persistence and Degradability

No information available

Persistence

May persist.

Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential

Product has a high potential to bioconcentrate

| Component | log Pow | Bioconcentration factor (BCF) |
|---------------------------------------|---------------|-------------------------------|
| Benzene, methyl(phenylmethyl)- | 4.872 - 4.935 | No data available |
| Dibenzylbenzene, ar-methyl derivative | >6 | No data available |

Mobility

No information available. Is not likely mobile in the environment due its low water solubility and propensity to bind to soil particles

Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste treatment methods

Waste from Residues/Unused Products

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point.

Other Information

Disposal agencies or waste contractors must comply with the New Zealand Hazardous

Substances (Disposal) Regulations . Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

Section 14 - Transport Information

NZS 5433:2020

| | |
|-------------------------|---|
| UN-No | UN3082 |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| Technical Shipping Name | (Benzyltoluene) |
| Hazard Class | 9 |
| Packing Group | III |

IATA

| | |
|-------------------------|---|
| UN-No | UN3082 |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| Technical Shipping Name | (Benzyltoluene) |
| Hazard Class | 9 |
| Packing Group | III |

IMDG/IMO

| | |
|-------------------------|---|
| UN-No | UN3082 |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| Technical Shipping Name | (Benzyltoluene) |
| Hazard Class | 9 |
| Packing Group | III |

| | |
|-----------------------|--|
| Environmental hazards | Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO |
|-----------------------|--|

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|--|--------------------------------|
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable, packaged goods |
|--|--------------------------------|

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|---------------------|---|
| Special Precautions | No special precautions required. Please refer to the applicable dangerous goods regulations for additional information. |
|---------------------|---|

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|------------------------|------------|
| Additional information | None known |
|------------------------|------------|

Section 15 - Regulatory Information

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

National Regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

International Regulations

| | |
|---|--|
| Ozone Depletion Potential | This product does not contain any known or suspected substance |
| Persistent Organic Pollutant | This product does not contain any known or suspected substance |
| Rotterdam Convention (PIC) | Not applicable |
| Authorisation/Restrictions according to EU REACH | Not applicable |

International Inventories

New Zealand (NZIoC), Australia (AICS), Europe (EINECS/ELINCS/NLP), Korea (KECL), China (IECSC), Taiwan (TCSI), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component | CAS No | NZIoC | AICS | EINECS | ELINCS | NLP | KECL | IECSC | TCSI |
|---------------------------------------|------------|-------|------|-----------|--------|-----|----------|-------|------|
| Benzene, methyl(phenylmethyl)- | 27776-01-8 | X | X | 248-654-8 | - | - | 97-3-205 | X | X |
| Dibenzylbenzene, ar-methyl derivative | 53585-53-8 | - | - | 258-649-2 | - | - | - | - | - |

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | PICCS | ISHL | ENCS |
|---------------------------------------|------------|------|---|-----|------|-------|------|------|
| Benzene, methyl(phenylmethyl)- | 27776-01-8 | X | ACTIVE | X | - | - | X | X |
| Dibenzylbenzene, ar-methyl derivative | 53585-53-8 | - | - | - | - | - | X | X |

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

Section 16 - Other Information

This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations

Legend

NZIoC - New Zealand Inventory of Chemicals
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
IECSC - Chinese Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
NZS 5433:2020 - Transport of Dangerous Goods on Land
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
MARPOL - International Convention for the Prevention of Pollution from Ships
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
WEL - Workplace Exposure Limit
DNEL - Derived No Effect Level
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative
VOC - (Volatile Organic Compound)

AICS - Australian Inventory of Chemical Substances
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
CAS - Chemical Abstracts Service
ACGIH - American Conference of Governmental Industrial Hygienists
PNEC - Predicted No Effect Concentration
OECD - Organisation for Economic Co-operation and Development
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
LC50 - Lethal Concentration 50%
ATE - Acute Toxicity Estimate
RPE - Respiratory Protective Equipment
NOEC - No Observed Effect Concentration
BCF - Bioconcentration factor
PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data

HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID).

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

EPA Guide to classifying hazardous substances in New Zealand

EPA - Assigning a product to an existing HSNO approval guide

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Revision Date

10-Mar-2023

Revision Summary

SDS sections updated

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet