



Material Safety Data Sheet

Hazardous according to criteria of NOHSC Australia

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: Degadur 450 Road Marking Compound

Synonyms:

CAS-No.:

Molecular Formula:

Supplier: TCP Pty Ltd
ACN: 006 584 498
ABN: 41 006 584 498
Street Address: 1 Shelley Court
Kilsyth Vic 3137
Australia
Telephone: + 613 9725 9590
Facsimile: + 613 9723 3662

Emergency telephone numbers: Jack Mitchell 03 5286 1436
Bill Gorman 03 9735 0697

2. COMPOSITION/INFORMATION ON INGREDIENTS

Recommended use: Long life road markings.

Appearance: White paste with ester-like odour.

| CHEMICAL ENTITY | CAS NO. | PROPORTION |
|--|------------|------------|
| Methyl methacrylate | 80-62-6 | MEDIUM |
| 2-ethylhexyl acrylate | 103-11-7 | LOW |
| N ₁ N-bis-(2-hydroxypropyl)-p-toluidine | 38668-48-3 | VLOW |
| N ₁ N-dimethyl-p-toluidine | 99-97-8 | VLOW |
| Plasticiser | 91082-17-6 | LOW |
| Silica Flour | ? | MEDIUM |
| Glass Beads | - | MEDIUM |
| Quartz Sand | 1408-60-7 | MEDIUM |
| Titanium Dioxide | 13463-67-7 | LOW |
| | | 100% |

PROPORTION (% weight per weight):

VHIGH >60 HIGH 30-60 MED 10-29 LOW 1-9 VLOW <1

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

3. HAZARDS IDENTIFICATION – Information refers to resin component

This material is hazardous according to health criteria of NOHSC Australia.



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Hazard Category:

Xi Irritant

Risk Phrase(s):

R36/37/38: Irritating to eyes, respiratory system and skin.

R43: May cause sensitisation by skin contact.

Classified as Dangerous Goods by the criteria of the Australia Dangerous Goods Code (ADG Code) for Transport by Road and Rail.

Class: 3 Flammable Liquid

Poisons Schedule (Aust): Not Applicable

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126; New Zealand 03 474 7000).

Inhalation: Remove victim from exposure – avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If breathing laboured and patient cyanotic (blue), ensure airways are clear and have a qualified person give oxygen through a facemask. If breathing has stopped apply artificial respiration at once. In the event of cardiac arrest, apply external cardiac massage. Seek immediate medical advice.

Skin contact: For gross contamination, immediately drench with water and remove clothing. Continue to wash skin with plenty of water (and soap if material is insoluble). If swelling, redness, blistering or irritation occurs seek medical assistance. For skin burns, cover with a clean, dry dressing until medical help is available. If blistering occurs, do NOT break blisters. If skin contact occurs, immediately remove contaminated clothing and wash skin thoroughly. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye contact: Immediately irrigate with copious quantities of water for 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Urgently seek medical assistance.

Ingestion: Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. If vomiting occurs give further water. Seek immediate medical advice.

Notes to physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Specific hazards: Flammable liquid. May form flammable vapour mixtures with air. Flameproof equipment necessary in area where this chemical is being used. Nearby equipment must be earthed. Avoid all ignition sources. All potential sources of ignition (open flames, pilot lights, furnaces, spark producing switches and electrical equipment etc.) must be eliminated both in and near the work area. Do NOT smoke. Vapour may travel a considerable distance to source of ignition and flash back. Electrical requirements for work area should be assessed according to AS3000.

Fire fighting further advice: If safe to do so, remove containers from path of fire. Keep containers cool with water spray. On burning may emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.



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Suitable extinguishing media: If material is involved in a fire use foam, dry agent (carbon dioxide, dry chemical powder).

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal or re-use.

LARGE SPILLS

Shut off all possible sources of ignition. Clear area of all unprotected personnel. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain – prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Use a spark-free shovel. Collect and seal in properly labelled containers or drums for disposal or re-use.

7. HANDLING AND STORAGE

Handling: Avoid skin and eye contact and inhalation of vapour, mist or aerosols.

Storage: Store in a cool place and out of direct sunlight at a temperature not exceeding 25°C. Store away from incompatible materials described in Section 10. Store away from sources of heat or ignition. Keep containers closed when not in use – check regularly for leaks.

This material is classified as a Dangerous Good Class 3 Flammable Liquid as per the criteria of the Australian Dangerous Goods Code and must be stored in accordance with the relevant regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National occupational exposure limits

No value assigned for this specific material by the National Occupational Health and Safety Commission (NOHSC Australia).

However for:

| | TWA | | STEL | | CARCINOGEN CATEGORY | NOTICES |
|---------------------|-----|-------------------|------|-------------------|------------------------|---------|
| | ppm | mg/m ³ | ppm | mg/m ³ | | |
| Methyl methacrylate | 100 | 410 | - | - | - | Sk, Sen |

TWA – The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) – the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour work day.

'Sk' Notice – absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

'Sen' Notice – sensitiser. The substance can cause a specific immune response in some people. An affected individual may subsequently react to exposure to minute levels of that substance.



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These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Engineering measures: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well ventilated areas. Use with local exhaust ventilation or while wearing appropriate respirator. Keep containers closed when not in use.

Personal protection equipment: OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES and RESPIRATOR.

Wear overalls, chemical goggles and impervious gloves. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from butyl rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form / Colour / Odour: White paste with ester-like odour.

Solubility: Slightly in water.

| | | | |
|-------------------------------|---------------|---------------------|-------|
| Density: | 1.8 | Melting range (C): | N Av |
| Rel Vapour Density (air = 1): | >1 | Boiling Point (C): | N Av |
| Vapour Pressure (20°C): | 40 hPa | Decomp. Point (C): | N Av |
| Flash Point (C): | 10* | Sublimation Point: | N App |
| Flammability Limits (%): | 2.1-12.5* | pH: | N App |
| Autoignition Temp (C): | 430* | Viscosity (20°C) | N App |
| % Volatile by volume: | N Av | Evaporation Rate: | N Av |
| Solubility in water (g/L): | Approx 20 g/L | (n-Butyl acetate=1) | |

*values for methyl methacrylate
(Typical values only – consult specification sheet)
(N Av = Not Available N App = Not Applicable)

10. STABILITY AND REACTIVITY

Stability: This material can undergo polymerisation with the evolution of heat in the presence of radical forming substances (eg. peroxides), reducing agents and heavy metal ions.



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11. TOXICOLOGICAL INFORMATION – Information refers to resin component

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Material is irritant to mucous membranes and respiratory tract.

Skin contact: Contact with skin will result in irritation. A skin sensitiser. Repeated or prolonged skin contact may lead to allergic contact dermatitis.

Eye contact: A severe eye irritant.

Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and irritation to the gastrointestinal tract.

Long Term Effects: Repeated exposure to high levels of methyl methacrylate may produce adverse effects on the heart, lungs, liver and kidneys.

Acute toxicity / Chronic toxicity

No LD50 data available for the product. However, for the constituent,

Methyl methacrylate

| | |
|-------------------------------|--|
| Oral LD50 (rat): | >5,000 mg/kg |
| 4hr Inhalation LC50 (rat): | 29.8 mg/L |
| Dermal LD50 (rat): | >5,000 mg/kg |
| A skin sensitiser: | guinea pig |
| Carcinogenicity: | Non-carcinogenic in inhalation and feeding studies carried out on rats, mice and dogs. |
| Reprotoxicity/teratogenicity: | No indications of toxic effects were observed in reproduction studies in animals. |

2-Ethylhexyl acrylate

| | |
|--------------------------|--------------|
| Oral LD50 (rat): | >2,000 mg/kg |
| Inhalation LCL0 (mouse): | 0.6 mg/L |
| Dermal LD50 (rat): | >5,000 mg/kg |
| A skin sensitiser: | guinea pig |

N₁N-bis-(2-hydroxypropyl)-p-toluidine

| | |
|------------------|-----------|
| Oral LD50 (rat): | 172 mg/kg |
|------------------|-----------|

N₁N-dimethyl-p-toluidine

| | |
|------------------|-----------|
| Oral LD50 (rat): | 996 mg/kg |
|------------------|-----------|

12. ECOLOGICAL INFORMATION – Information refers to resin component

Avoid contaminating waterways.

Methyl methacrylate

| | |
|---|----------------|
| Readily biodegradable: | 94% in 14 days |
| 96hr LC50 flow through (oncorhynchus mykiss): | >79 mg/L |



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| | |
|---|---------------------------------|
| 48hr EC50 flow through (daphnia magna): | 69 mg/L |
| 21 day NOEC flow through (daphnia magna): | 37 mg/L |
| 8 day EC3 (scenedesmus quadricauda): | 37 mg/L cell proliferation test |
| EC0 (pseudomonas putida): | 100 mg/L |

| | |
|----------------------------|------------|
| 2-Ethylhexyl acrylate | |
| 48hr EC50 (daphnia magna): | 17.45 mg/L |

13. DISPOSAL CONSIDERATIONS

Refer to State / Territory Land Waste Management Authority.

14. TRANSPORT INFORMATION

Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail.

| | |
|-----------------------|--------------------|
| UN No.: | 1866 |
| Class-primary: | 3 Flammable Liquid |
| Packing group: | II |
| Hazchem code: | 3[Y]E |

Proper Shipping Name: Road Marking Compound, flammable (contains METHYL METHACRYLATE)

Segregation Dangerous Goods: Not to be loaded with explosives (Class 1), flammable gases (Class 2.1), if both are in bulk, toxic gases (Class 2.3), spontaneously combustible substances (Class 4.2), oxidising agents (Class 5.1), organic peroxides (Class 5.2) or radioactive substances (Class 7), however exemptions may apply.

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

| | |
|-----------------------|--------------------|
| UN No: | 1866 |
| Class-primary: | 3 Flammable Liquid |
| Packing Group: | II |

Proper Shipping Name: Road Marking Compound, flammable (containing METHYL METHACRYLATE)

Air Transport:

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

| | |
|-----------------------|--------------------|
| UN No: | 1866 |
| Class-primary: | 3 Flammable Liquid |
| Packing Group: | II |

Proper Shipping Name: Road Marking Compound flammable (containing METHYL METHACRYLATE)



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15. REGULATORY INFORMATION

Hazardous according to criteria of NOHSC Australia.

Hazard Category:

Xi Irritant

Risk Phrase(s)

R36/37/38: Irritating to eyes, respiratory system and skin.

R43: May cause sensitisation by skin contact.

Safety Phrase(s)

S16: Keep away from sources of ignition.

S23: Do not breathe vapour.

S24/25: Avoid contact with skin and eyes.

S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

S38: In case of insufficient ventilation, wear suitable respiratory equipment.

Poisons Schedule (Aust): Not applicable.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Literary reference

This Material Safety Data Sheet has been prepared by TCP Pty Ltd from information provided by Degussa Australia.

For further information about this product contact:

Name: Jack Mitchell

Phone: 03 9725 9590

Reason(s) for issue: To meet requirements of NOHSC: 2011 (2003)

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

This MSDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since TCP Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.



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