

Material Safety Data Sheet

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CHEMSET (TM) 101

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Classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name CHEMSET(TM) 101

Product Code C101C, C101J, C101M, ISKP, ISKPT

Company Name RAMSET FASTENERS (AUST.) PTY LIMITED A DIVISION OF ITW CONSTRUCTION P (ABN 004 297 009)

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Telephone/Fax Number Tel: 1300 780 063 / +613 9727 6229
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Recommended Use Anchoring bolts and bars into concrete and block work

Other Names	Name	Product Code
	Polyester Resin Kit	

2. HAZARDS IDENTIFICATION

Hazard Classification HAZARDOUS SUBSTANCE.
DANGEROUS GOODS.

Classified as Hazardous according to criteria of National Occupational Health & Safety Commission, Australia (NOHSC).

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Risk Phrase(s) R10 Flammable.
R20 Harmful by inhalation.
R43 May cause sensitization by skin contact.
R36/38 Irritating to eyes and skin.

Safety Phrase(s) Avoid contact with skin and eyes. Avoid breathing vapour.
Keep away from sources of ignition - no smoking.
Keep container tightly closed in a cool place.
Wear suitable protective clothing, gloves and eye/face protection.

Other Information Classified as Hazardous according to criteria of ASCC.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Information on Composition Ingredient Chemical Identity Part

Styrene Monomer A
Dibenzoyl Peroxide B
Dimethyl Aniline A

Ingredients	Name	CAS	Proportion
	STYRENE MONOMER	100-42-5	10-30 %
	Dibenzoyl peroxide	94-36-0	10-30 %
	Dimethyl aniline	121-69-7	<1 %

4. FIRST AID MEASURES

Inhalation If inhaled remove from exposure. If severely affected obtain medical assistance. If unconscious, ensure airway is clear and patient is breathing and obtain medical assistance. If not breathing, apply artificial respiration until medical assistance arrives.

Ingestion Do NOT induce vomiting. Give a glass of water to drink. Contact a doctor or Poisons Information Centre 13 1126.

Skin If on skin, remove contaminated clothing and wash skin thoroughly with soap and water. Contact doctor if irritation persists.

Eye If in eyes, hold eyelids apart and flush the eye continuously with running water for at least 15 minutes. If irritation persists contact a doctor.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Carbon dioxide, foam, dry chemical, foam, water fog. Water jet to cool unignited containers.
Hazards from Combustion Products	Carbon dioxide, carbon monoxide, oxides of nitrogen.
Special Protective Equipment for fire fighters	Wear full protective clothing and self-contained breathing apparatus.
Specific Hazards	Product is flammable.
Hazchem Code	3[Y]
Decomposition Temp.	Dibenzoyl Peroxide - SADT ca. 50°C

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures	Emergency procedures: Shut off and / or isolate sources of ignition. No smoking. Take precautions to prevent discharge of static electricity. Ensure area is well ventilated to prevent accumulation of flammable vapours.
Methods and Materials for Containment and Clean Up Procedures	Absorb spilled material with vermiculite, sand, earth or other inert absorbent materials. Do not use saw dust, paper or other combustible materials. Scoop up absorbed material and place into sealed drums for disposal. Wash residue with water and alkali (eg. potassium hydroxide). Do not allow to washing to enter drains.

7. HANDLING AND STORAGE

Precautions for Safe Handling	Store in a cool place out of direct sunlight. Ensure area is ventilated. Keep away from sources of ignition - no smoking. Store between 5°C and 25°C.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	Ingredient CAS TWA STEL ppm mg/m ³ ppm mg/m ³
	Styrene Monomer 100-42-5 50 213 100 426
	Dibenzoyl Peroxide 94-36-0 5
	Dimethyl aniline 121-69-7 5 25 10 50

Engineering Controls	Exhaust ventilation in enclosed spaces to maintain exposure levels below the listed exposure limits.
Personal Protective Equipment	Wear impervious gloves and overalls. Wear safety glasses, goggles or face shield. Wear Organic Vapour Respirator where respiratory exposure above exposure limits is possible.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Part A: Mauve or purple paste, Part B: Green paste
Odour	Styrene
Decomposition Temperature	Dibenzoyl Peroxide - SADT ca. 50°C
Melting Point	Not available
Freezing Point	Not available
Boiling Point	145°C (Styrene)
Solubility in Water	Part A: Not soluble, Part B: Miscible
Specific Gravity	1.55 g /ml (Part A and Part B)
pH Value	Not applicable
Vapour Pressure	4.5 mmHg @ 20°C (Styrene)
Vapour Density (Air=1)	3.6, Heavier than air
Viscosity	100,000 cps @ 20°C
Flash Point	31°C
Auto-Ignition Temperature	Not available
Flammable Limits - Lower	1.1%
Flammable Limits - Upper	6.5%
Explosion Limit - Upper	Not available
Explosion Limit - Lower	Not available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Conditions to Avoid	Heat, flames, strong light
Incompatible Materials	Strong oxidisers, strong acids or bases, heavy metal salts
Hazardous Decomposition Products	Oxides of carbon and nitrogen during combustion
Hazardous Reactions	None

11. TOXICOLOGICAL INFORMATION

Toxicology Information

ADDITIONAL TOXICOLOGY INFORMATION: This product contains STYRENE.

There are inconsistent reports of neurotoxic effects in exposed people, including changes in nerve conduction velocity, electroencephalograms, vestibular-oculomotor function and response times; in particular the evidence of effects of exposure to styrene in the air at or below 50 ppm is not consistent or reliable. Studies in rats have found no evidence of irreversible neurotoxic effects other than ototoxicity. Styrene has been shown to cause probable hearing loss in rats exposed for at least six hours per day for three to thirteen weeks to 800 ppm of styrene in the air, as indicated by a rise in the auditory brainstem response threshold and loss of hair cells of the inner ear. No effects were observed in rats exposed to styrene at 200 ppm for 13 weeks. Based on animal studies and human experience, no significant risk of hearing loss is expected in occupationally exposed people. Small decreases in the ability to discriminate colours have been reported for some exposed workers, primarily those with mean exposure levels greater than 50 ppm. These effects are very subtle and were not likely to be noticed by the people tested.

GENETIC TOXICITY: Styrene was not mutagenic in in-vitro assays such as the Ames test without metabolic activation, but in the presence of metabolic systems has given both negative and positive responses. Styrene has induced chromosomal aberrations and sister chromatid exchanges in vitro, when the test conditions favoured metabolic activation over inactivation. In studies with laboratory animals, there has been no convincing evidence of chromosomal damage; however, styrene at high concentration has induced increases in sister chromatid exchanges. Although some cytogenetic studies on peripheral blood lymphocytes of workers exposed to styrene have reported increases in chromosome damage, there is no clear relationship between degree of exposure and effect.

REPEATED DOSE TOXICITY: Repeated exposures to styrene vapour have been found to cause liver toxicity in mice at levels above 100

ppm. Dose-related degenerative effects on olfactory cells in the nose have been observed after repeated exposure to levels at or above 20 ppm in mice and 50 ppm in rats. Atrophy of the olfactory nerve was observed at levels at or above 40 ppm in mice and 500 ppm in rats. A study of workers in the reinforced plastics industry exposed to an average of 26 ppm styrene found no evidence of impairment in the ability to detect or identify odours. There was a decrease in sensitivity to the odour of styrene, consistent with olfactory adaptation resulting from prior exposure to styrene.

- Inhalation** Irritating to respiratory system. Prolonged exposure to vapours may cause headache, impairment of judgement, central nervous system depression that in extreme cases may lead to unconsciousness or death.
- Ingestion** Moderately toxic. May cause chemical pneumonitis if aspirated into lungs.
- Skin** Mildly irritating on skin. Frequent or prolonged contact may cause dermatitis.
- Eye** Mildly irritating to the eye.
- Chronic Effects** NOT listed as a carcinogen by NOHSC.
Animal test data indicates a carcinogenic potential in animals, which were exposed to styrene at elevated levels. IARC list Styrene as Group 2b, possibly carcinogenic to humans. Use of this material at or below the TWA exposure limit is not considered to be harmful to most workers.
- Reproductive Toxicity** Styrene did not cause birth defects in orally-dosed rats, mice, rabbits and hamsters exposed by inhalation. Other developmental effects are reported at exposure levels that are maternally toxic. Information from human experience and the results of animal studies suggest no significant risk of birth defects or reproductive toxicity of styrene in humans.
- Carcinogenicity** Several epidemiology studies involving workers in the styrene, polystyrene and reinforced plastics industries have been conducted. Together, these studies of over 90,000 workers show NO increased cancer risk from occupational exposure to styrene. A recent study of rats exposed by inhalation for their lifetimes found no treatment-related cancers. In a recent lifetime inhalation study in mice, increases in lung cancer and lung hyperplasia were found. The evaluation of other tissues from the mouse study is still being conducted. Earlier studies in which rats and mice were given styrene by inhalation or by ingestion for their lifetimes are considered inadequate to assess human carcinogenicity because these studies had either negative or statistically inconclusive results, or had serious problems such as poor study design or very high mortality. The International Agency for Research on Cancer (IARC) has classified styrene in Group 2B, possibly carcinogenic to humans, based on limited evidence of carcinogenicity in animals and humans. The styrene industry, represented by the Composites Fabricators Association, Composites Institute, International Cast Polymer Association, National Marine Manufacturers Association and Styrene Information and Research Center, has established a voluntary program with OSHA to implement workplace permissible exposure levels of 50 ppm (8-hr

time weighted average) and 100 ppm (15-min ceiling).

Acute Toxicity - Oral - The oral LD50 in the rat is >5.0 g/kg. The acute oral toxicity is based on test results for STYRENE.

LD50 Rat
Dose: > 5,000 mg / kg
Test Substance: dibenzoyl peroxide (78% granulate)

Acute Toxicity - Inhalation - The inhalation LD50 in the rat is 2,700 ppm after 4 hour(s) exposure. The acute inhalation toxicity is based on test results for STYRENE.

LC50 Rat
Exposure Time: 4 h
Dose: >24.3 mg / l
Test Substance: dibenzoyl peroxide (78% granulate)
Nominal dust concentration

Eye Irritation. This material is irritating to the eyes. The eye irritation hazard is based on test results for STYRENE.

Skin Irritation This material is irritating to the skin. The dermal irritation hazard is based on test results for STYRENE. Respiratory Tract Irritation: This material maybe irritating to the respiratory tract.

Skin Sensitisation Dermal -
Test Substance: Styrene
This material is not a sensitizer in the guinea pig.

Test Substance: dibenzoyl peroxide (BP)
May cause sensitisation by skin contact

AMES-Test:
Result: Not mutagenic in AMES test (dibenzoyl peroxide)

12. ECOLOGICAL INFORMATION

Ecotoxicity Styrene is expected to be toxic to aquatic organisms. The 96 hour (s) LC50 for fathead minnow (*Pimephales promelas*) is 10.00 mg/l. This information is based on test data from the component: STYRENE. The 96 hour(s) LC50 for rainbow trout (*Salmo gairdneri*) is 4.1 mg/l. This information is based on test data from the component: STYRENE.

The 48 hour(s) EC50 for water flea (*Daphnia magna*) is 4.7 mg/l. This information is based on test data from the component: STYRENE.

The 72 hour(s) EC50 for green algae (*Selenastrum capricornutum*) is 4.9 mg/l. This information is based on test data from the component: STYRENE.

Persistence / Degradability Biodegradability:
Result: Readily biodegradable

Test substance: dibenzoyl peroxide (BP)
Method: Closed Bottle Test

Environmental

Fate Styrene is expected to be readily biodegradable.

Acute Toxicity - LC50
Fish Dose: 2.0 mg / l
Exposure Time: 96 h
Test substance: dibenzoyl peroxide (75% in water)

Acute Toxicity - Acute and prolonged toxicity for aquatic invertebrates:
Daphnia EC50
Species: Daphnia
Exposure Time: 48 h
Dose: 2.91 mg / l
Test Substance: dibenzoyl peroxide (75% in water)

Acute Toxicity - Respiration inhibition of activated sludge EC50
Bacteria Dose: 35 mg / l
Test Substance: dibenzoyl peroxide (75% in water)

Acute Toxicity - Acute toxicity for aquatic plants:
Other Organisms EC50
Dose: 0.44 mg / l
Exposure Time: 72 h
Test Substance: dibenzoyl peroxide (75% in water)

13. DISPOSAL CONSIDERATIONS

Disposal Dispose of in accordance with local, state and federal
Considerations regulations.

14. TRANSPORT INFORMATION

U.N. Number 3269

Proper Shipping
Name POLYESTER RESIN KIT

DG Class 3

Hazchem Code 3[Y]

Packaging Method 3.8.3

Packing Group III

IERG Number 15

15. REGULATORY INFORMATION

Regulatory Information HAZARDOUS SUBSTANCE.
SCHEDULED POISON.

Classified as Hazardous according to criteria of National Occupational Health & Safety Commission, Australia (NOHSC).
Classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Poisons Schedule S5

Hazard Category Harmful, Irritant

AICS (Australia) All ingredients are listed on the AICS.

16. OTHER INFORMATION

Other Information MSDS: 19542

ISSUE: 10

MSDS Prepared in accordance with [NOHSC: 2011 (2003)]

This MSDS has been transcribed into Infosafe NOHSC format from an original issued by the manufacturer on the date shown. Any disclaimer by the manufacturer may not be included in the transcription.

* End of MSDS

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