

**PRODUCT: Chemset™ 101 Anchoring Adhesive**

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**SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER****Product Name:** Chemset™ 101**Manufacturer's Product Code:** C101C, C101J, C101M, ISKP, ISKPT**Other Names:** Polyester Resin Kit**Recommended Uses:** Anchoring bolts and bars into concrete and block work

Ramset Fasteners (Aust) Pty Limited ACN 004 297 009

A Division of ITW Construction Products

Maroondah Highway,

Mooroolbark, Victoria, Australia. 3138

**Telephone:** 1300 780 063**Emergency Telephone Number:** 1800 039 008 (24 hours / 7 days)**SECTION 2: HAZARDS IDENTIFICATION****- Classified as Hazardous according to criteria of ASCC -****Risk Phrases:**

R10 Flammable

R20 Harmful by inhalation

R36/38 Irritating to eyes and skin

R43 May cause sensitisation by skin contact

**Safety Phrases:**

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.

**SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Ingredient Chemical Identity</b>	<b>CAS Number</b>	<b>Proportion</b>	<b>Part</b>
Styrene Monomer	100-42-5	10 to 30%	A
Dibenzoyl Peroxide	94-36-0	10 to 30%	B
Dimethyl Aniline	121-69-7	< 1%	A

**SECTION 4: FIRST AID MEASURES****ACUTE****Swallowed:** Do NOT induce vomiting. Give a glass of water to drink. Contact a doctor or Poisons Information Centre 13 1126**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.

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

**Inhaled:** 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.

**SECTION 5: FIRE FIGHTING MEASURES**

**Product is flammable**

**Suitable Extinguishing Media:** Carbon dioxide, foam, dry chemical, foam, water fog. Water jet to cool unignited containers.

**Hazardous products of combustion:** Carbon dioxide, carbon monoxide, oxides of nitrogen

**Special protective precautions and equipment for fire-fighters:** Wear full protective clothing and self-contained breathing apparatus

**Hazchem code:** 3[Y]

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**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:**

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.

**SECTION 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

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**National exposure standards**

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

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**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 goggles or face shield. Wear Organic Vapour Respirator where respiratory exposure above exposure limits is possible.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Part A: Mauve or purple paste, Part B: Green paste

**Odour:** Styrene

**pH:** Not applicable

**Vapour Pressure:** 4.5 mmHg @ 20°C (Styrene)

**Boiling Point / Range:** 145°C (Styrene)

**Freezing / Melting Point:** Not available

**Solubility in Water:** Part A: Not soluble, Part B: Miscible

**Specific Gravity:** 1.55 g /ml (Part A and Part B)

**Flashpoint and Method:** 31°C

**Flammability Limit:** Upper: 6.5%, Lower: 1.1%

**Explosive Limit:** Not available

**Ignition Temperature:** Not available

**Other Properties:**

**Viscosity:** 100,000 cps @ 20°C

**Vapour Density:** 3.6, Heavier than air

**SECTION 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

**Thermal Decomposition:** Dibenzoyl Peroxide – SADT ca. 50°C

**Hazardous reactions:** None

**SECTION 11: TOXICOLOGICAL INFORMATION****Acute**

**Swallowed:** Moderately toxic. May cause chemical pneumonitis if aspirated into lungs

**Eye:** Irritating to the eye

**Skin:** Mildly irritating on skin. Frequent or prolonged contact may cause dermatitis

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**Inhaled:** 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.

**Chronic**

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.

**Acute Oral Toxicity:**

The oral LD<sub>50</sub> in the rat is >5.0 g/kg. The acute oral toxicity is based on test results for STYRENE.

LD<sub>50</sub> Rat

Dose: > 5,000 mg / kg

Test Substance: dibenzoyl peroxide (78% granulate)

**Acute Inhalation Toxicity:**

The inhalation LD<sub>50</sub> in the rat is 2,700 ppm after 4 hour(s) exposure. The acute inhalation toxicity is based on test results for STYRENE.

LC<sub>50</sub> 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.

**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)

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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.

**REPRODUCTIVE / DEVELOPMENTAL 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.

**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.

**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.

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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).

**SECTION 12: ECOLOGICAL INFORMATION**

## Persistence and Biodegradability

## Biodegradability:

Result: Readily biodegradable

Test substance: dibenzoyl peroxide (BP)

Method: Closed Bottle Test

## Ecotoxicity

Styrene is expected to be toxic to aquatic organisms. The 96 hour(s)  $LC_{50}$  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)  $LC_{50}$  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)  $EC_{50}$  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)  $EC_{50}$  for green algae (*Selenastrum capricornutum*) is 4.9 mg/l. This information is based on test data from the component: STYRENE.

## ENVIRONMENTAL FATE:

Styrene is expected to be readily biodegradable.

## Toxicity to Fish:

 $LC_{50}$ 

Dose: 2.0 mg / l

Exposure Time: 96 h

Test substance: dibenzoyl peroxide (75% in water)

## Toxicity to Bacteria:

Respiration inhibition of activated sludge  $EC_{50}$ 

Dose: 35 mg / l

Test Substance: dibenzoyl peroxide (75% in water)

## Acute toxicity for aquatic plants:

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EC<sub>50</sub>

Dose: 0.44 mg / l

Exposure Time: 72 h

Test Substance: dibenzoyl peroxide (75% in water)

Acute and prolonged toxicity for aquatic invertebrates:

EC<sub>50</sub>

Species: Daphnia

Exposure Time: 48 h

Dose: 2.91 mg / l

Test Substance: dibenzoyl peroxide (75% in water)

**SECTION 13: DISPOSAL CONSIDERATIONS**

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

**SECTION 14: TRANSPORT INFORMATION****UN Number:** 3269**UN Proper Shipping Name:** Polyester Resin Kit**Class and subsidiary risk:** 3**Packaging Group:** III**Hazchem Code:** 3[Y]**SECTION 15: REGULATORY INFORMATION****Poisons Schedule:** 5**NICNAS Status:** All ingredients are listed on the AICS**SECTION 16: OTHER INFORMATION**

None