Safety Data Sheet

Hazardous, NON-Dangerous Goods

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: Flowfresh Coating Satin - Hardener B

Recommended use: Coatings and paints, thinners, paint removers. Hand-mixing with intimate contact and only PPE available. Wide dispersive indoor use resulting in inclusion into or onto a matrix. Wide dispersive outdoor use resulting in inclusion into or onto a matrix. For use by appropriately trained applicators. Roller application or brushing. Low energy spreading of coatings. Advised against: Home DIY applications, because of the health hazards and training required.

Supplier: Tremco CPG Australia Pty Ltd
ABN: 25 000 024 064
Street Address: 12/4 Southridge Street
Eastern Creek NSW 2766
Telephone: 02 9638 2755
Facsimile: 02 9638 2955

Emergency Telephone number: 02 9037 2994

2. HAZARDS IDENTIFICATION

This material is hazardous according to the criteria of Safe Work Australia GHS 7.

Signal Word
Danger

Hazard Classifications
Acute Toxicity - Inhalation - Category 4
Skin Corrosion/Irritation - Category 2
Eye Damage/Irritation - Category 2A
Sensitisation - Respiratory - Category 1
Sensitisation - Skin - Category 1
Carcinogenicity - Category 2
Specific Target Organ Toxicity (Single Exposure) - Category 3 Respiratory Tract Irritation
Specific Target Organ Toxicity (Repeated Exposure) - Category 2

Hazard Statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer .
H373	May cause damage to organs through prolonged or repeated exposure.

Prevention Precautionary Statements

P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P202	Do not handle until all safety precautions have been read and understood.

P260	Do not breathe dust, fume, gas, mist, vapours or spray.
P264	Wash hands, face and all exposed skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing including eye/face protection.
P284	In case of inadequate ventilation wear respiratory protection.
P285	In case of inadequate ventilation wear respiratory protection.

Response Precautionary Statements

P101	If medical advice is needed, have product container or label at hand.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P314	Get medical advice/attention if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P341	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.
P362+P364	Take off contaminated clothing and wash it before reuse

Storage Precautionary Statements

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal Precautionary Statement

P501	Dispose of contents/container in accordance with local, regional, national and international regulations.

Poison Schedule:

DANGEROUS GOOD CLASSIFICATION

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	50-75 %
4, 4' - diphenylmethane diisocyanate (MDI)	101-68-8	25-50 %
Ingredients determined to be Non-Hazardous		Balance
		100%

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Move to fresh air. Consult a physician after significant exposure.

Skin Contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

Eye contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

Ingestion: Do NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Obtain medical attention.

PPE for First Aiders: Wear overalls, gloves, safety glasses, respirator. 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, nitrile rubber, neoprene 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.

Notes to physician: Treat symptomatically. Effects may be delayed. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.4.2 Most important symptoms and effects, both acute and delayed Harmful by inhalation. Irritating to eyes. Irritating to skin. Limited evidence of a carcinogenic effect. The substance has delayed effects. Harmful: possible risk of irreversible effects through inhalation.4.3 Indication of any immediate medical attention and special treatment needed No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. FIRE FIGHTING MEASURES

Hazchem Code: Not applicable.

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Combustible material.

Fire fighting further advice: On burning or decomposing 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 or decomposition.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS
Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations. After cleaning, flush away traces with water.

LARGE SPILLS
Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations. After cleaning, flush away traces with water.

Dangerous Goods - Initial Emergency Response Guide No: Not applicable

7. HANDLING AND STORAGE

Handling: Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used. Provide sufficient air exchange and/or exhaust in work rooms. Wear personal protective equipment. Do not breathe vapours or spray mist. Avoid contact with skin and eyes.

Storage: Store at room temperature in the original container. Keep locked up or in an area accessible only to qualified or authorised persons. Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits:

	TWA		STEL		NOTICES
	ppm	mg/m3	ppm	mg/m3	
Methylene bisphenyl isocyanate (MDI)					

As published by Safe Work Australia.

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 workday.

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.

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

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.

Personal Protection Equipment: OVERALLS, GLOVES, SAFETY GLASSES, RESPIRATOR.

Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted.

Wear overalls, gloves, safety glasses, respirator. 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, nitrile rubber, neoprene 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.

RECOMMENDATIONS FOR CONSUMER USE:
RESPIRATORY PROTECTION: Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing. In case of insufficient ventilation wear suitable respiratory equipment. Respirator with a vapor filter.EYE PROTECTION: Ensure that eyewash stations and safety showers are close to the workstation location. Safety glasses with side-shields conforming to EN166.HAND PROTECTION: Isocyanates can harden gloves and increase the risk of their splitting. Protective gloves complying with EN 374: Viton®, Neoprene, Nitril rubber, Butyl rubber. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured accordingto EN 374, due to the numerous outside influences (e.g. temperature). Long sleeved clothing.

Remove and wash contaminated clothing before re-use. Remove contaminated clothing and protective equipment before entering eating areas.OTHER PROTECTIVE EQUIPMENT: No InformationENGINEERING CONTROLS: At temperatures below 40°C, provide a good standard of general ventilation (not less than 5 air changes per hour). At temperatures over 40°C - and always if sprayed - exhaust ventilation is required. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

Hygiene measures: Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. In the case of sensitisation to any of the ingredients, it is inadvisable to work with the product. Handle in accordance with good industrial hygiene and safety practice. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Base Units:	Kilogram
Form:	Liquid
Colour:	Amber
Odour:	slight

Solubility:	Not determined
Solubility in water:	Not determined
Specific Gravity:	0.091
Density:	Not determined
Relative Vapour Density (air=1):	Not determined
Vapour Pressure (20 °C):	Not determined
Flash Point (°C):	200-250°C
Flammability Limits (%):	Not determined
Autoignition Temperature (°C):	Not determined
Melting Point/Range (°C):	Not determined
Pour Point/Range (°C):	Not determined
Boiling Point/Range (°C):	N.D. - N.D.
Decomposition Point (°C):	Not determined
Sublimation Point (°C):	Not determined
Dropping Point (°C):	Not determined
pH:	Not determined
Viscosity:	Not determined
Surface Tension:	Not determined
Evaporation Rate (n-Butyl acetate=1):	Not determined
Partition Coefficient:	Not determined
Total VOC (g/Litre):	0
Odour Threshold:	Not determined
Explosive properties:	Not determined
Oxidising properties:	Not determined
% Volatile by Volume:	Not determined
Molecular Formula:	Not determined
Molecular Weight:	Not determined

(Typical values only - consult specification sheet)
N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: Stable under recommended storage conditions. Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.

Conditions to avoid: Avoid temperatures above 40 °C, direct sunlight and contact with sources of heat. Do not freeze.

Incompatible materials: Keep away from oxidising agents, strongly acid or alkaline materials, as well as of amines, alcohols and water. Amines and alcohols cause exothermic reactions.

Hazardous decomposition products: In case of fire hazardous decomposition products may be produced such as: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke. Preparation reacts slowly with water resulting in evolution of CO2. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting

Hazardous reactions: No reactivity hazards known under normal storage and use conditions. Polymerises at about 200°C with evolution of CO2.

11. TOXICOLOGICAL INFORMATION

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: Harmful if inhaled. Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates. Isocyanates may cause acute irritation and/or sensitisation of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition. A respiratory sensitiser. Can cause possible allergic reactions.

Skin contact: In the case of sensitisation to any of the ingredients, it is inadvisable to work with the product. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. A skin sensitiser. Repeated or prolonged skin contact may lead to allergic contact dermatitis.

Ingestion: No information

Eye contact: No information

Acute toxicity

Inhalation: This material has been classified as a Category 4 Hazard. Acute toxicity estimate (based on ingredients): $10.0 < LC_{50} \leq 20.0$ mg/L for vapours or $1.0 < LC_{50} \leq 5.0$ mg/L for dust and mist.

isocyanic acid, polymethylenepolyphenylene ester LC50 (Rat): 0..49 mg/l (4 h, Aerosol.) (Method: Vapor)
4,4'-methylenediphenyl diisocyanate LC50 (Rat): 43 ppm vapor 4 hrs (Method: Vapor)

Skin contact: This material has been classified as not hazardous for acute dermal exposure. Acute toxicity estimate (based on ingredients): $LD_{50} > 2{,}000$ mg/Kg bw

isocyanic acid, polymethylenepolyphenylene ester LD50 (Rat): >9400 mg/kg (Method: Dermal)

Ingestion: This material has been classified as not hazardous for acute ingestion exposure. Acute toxicity estimate (based on ingredients): $LD_{50} > 2{,}000$ mg/Kg bw

isocyanic acid, polymethylenepolyphenylene ester LD50 (Rat): >10000 mg/kg (Method: Oral)
4,4'-methylenediphenyl diisocyanate LD50 (Rat): 15000 mg/kg oral (Method: Oral)

Corrosion/Irritancy: Eye: this material has been classified as a Category 2A Hazard (reversible effects to eyes). Skin: this material has been classified as a Category 2 Hazard (reversible effects to skin).

Sensitisation: Inhalation: this material has been classified as a Category 1 Hazard (respiratory sensitiser). Skin: this material has been classified as a Category 1 Hazard (skin sensitiser).

Aspiration hazard: This material has been classified as not an aspiration hazard.

Specific target organ toxicity (single exposure): This material has been classified as a Category 3 Hazard. Exposure via inhalation may result in respiratory irritation.

Chronic Toxicity

Mutagenicity: This material has been classified as not a mutagen.

Carcinogenicity: This material has been classified as a Category 2 Hazard.

Reproductive toxicity (including via lactation): This material has been classified as not a reproductive toxicant.

Specific target organ toxicity (repeat exposure): This material has been classified as a Category 2 Hazard.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Acute aquatic hazard: No information

4,4'-methylenediphenyl diisocyanate 48hr EC50 (Daphnia magna): >1000 mg/l
Isocyanic acid, polymethylenepolyphenylene ester 72hr IC50 (algae): 1640 mg/l
Isocyanic acid, polymethylenepolyphenylene ester 96hr LC50 (fish): >1000 mg/l
4,4'-methylenediphenyl diisocyanate 96hr LC50 (fish): >1000 mg/l

Long-term aquatic hazard: No information

Ecotoxicity: No information

Persistence and degradability: No information

Bioaccumulative potential: No information

Mobility: No information

13. DISPOSAL CONSIDERATIONS

Dispose of as hazardous waste in compliance with local and national regulations. Container hazardous when empty. Empty containers should be taken to an approved waste handling site for recycling or disposal. The product should not be allowed to enter drains, water courses or the soil.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT
Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

MARINE TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:

Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

This material/constituent(s) is covered by the following requirements:

The Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act (Commonwealth): .

16. OTHER INFORMATION

Reason for issue: Revised

This information was prepared in good faith from the best information available at the time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions.

If you are an employer it is your duty to tell your employees, and any others that may be affected, of any hazards described in this sheet and of any precautions that should be taken.

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