

SAFETY DATA SHEET



Revision date: 09-Sep-2024

Revision Number 2

Section 1: Identification

Product identifier

Product Name Tufflon P90 AS Part A

Product Code(s) 000000067099

Other means of identification

Recommended use of the chemical and restrictions on use

Recommended use Component of a polyurea system.

Uses advised against No information available.

Details of manufacturer or importer

Supplier

Liquimix Pty Ltd
ABN: 32 062 887 585
Street Address: 24 Rosa Place
Richlands QLD 4077
Australia

Telephone Number: +61 7 3277 6655

Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

Section 2: Hazard identification

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).
Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

GHS Classification

Acute toxicity - Inhalation (Vapors)	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1

Label elements

Skull and crossbones
Health hazard
Exclamation mark

**Signal word**

DANGER

Hazard statements

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H330 - Fatal if inhaled

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H335 - May cause respiratory irritation

H351 - Suspected of causing cancer

H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

Precautionary Statements - Prevention

Obtain special instructions before use.

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

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Do not breathe dust/fume/gas/mist/vapors/spray.

In case of inadequate ventilation wear respiratory protection.

Wear protective gloves/clothing and eye/face protection.

Wash face, hands and any exposed skin thoroughly after handling.

Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements - Response

IF exposed or concerned:

Get medical advice/attention if you feel unwell.

Specific treatment is urgent (see First aid on this SDS).

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

eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Precautionary Statements - Disposal

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

Other hazards which do not result in classification**Section 3: Composition and information on ingredients**

Chemical name	CAS No.	Weight-%
Methylenediphenylene diisocyanate, polypropylene glycol polymer	39420-98-9	> 60%
Diphenylmethanediisocyanate, mixture of 2,4 and 4,4 isomers	5873-54-1	10 - 30%
Diphenylmethane-4,4-diisocyanate	101-68-8	10 - 30%

Section 4: First aid measures

Description of first aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. May cause allergic respiratory reaction.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation persists.
Skin contact	Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician. Allergic symptoms may be delayed. Take off contaminated clothing and wash before reuse.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting without medical advice. Immediate medical attention is required.

Most important symptoms and effects, both acute and delayed

Symptoms	Asthma-like and/ or skin allergy-like symptoms.
Effects of Exposure	No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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Section 5: Firefighting measures

Suitable Extinguishing Media

Suitable extinguishing media	CO2, dry chemical, dry sand, alcohol-resistant foam.
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Unsuitable extinguishing media	Water may be used if no other available and then in copious quantities. Reaction between water and hot isocyanate may be vigorous. Do not scatter spilled material with high pressure water streams.
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Specific hazards arising from the chemical

Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating and toxic gases and vapors. Cool drums with water spray.
Hazardous combustion products	Carbon oxides. Nitrogen oxides. Isocyanates. Hydrogen cyanide.

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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Section 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions Do not breathe vapor or mist. Avoid contact with skin, eyes or clothing. Work up wind or increase ventilation. Wear appropriate respirator when ventilation is inadequate. Do not eat, drink or smoke when using this product.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Keep out of waterways. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up Dike to collect large liquid spills. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Never return spill or leaks to original containers for re-use. Decontaminant (to neutralize residues): Solution of sodium carbonate 5-10%, liquid detergent 0.2-2%, water to 100%.

Section 7: Handling and storage**Precautions for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapor or mist. In case of insufficient ventilation, wear suitable respiratory equipment.

General hygiene considerations Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Take off contaminated clothing and wash it before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Acids. Bases. Amines. Metals. Water.

Section 8: Exposure controls and personal protection**Control parameters**

Exposure Limits No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Chemical name	Australia	New Zealand	ACGIH TLV
Diphenylmethanediisocyanate, mixture of 2,4 and 4,4 isomers 5873-54-1	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³	-
Diphenylmethane-4,4-diisocyanate 101-68-8	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³	TWA: 0.005 ppm

Chemical name	European Union	United Kingdom	Germany DFG
Diphenylmethanediisocyanate, mixture of 2,4 and 4,4 isomers 5873-54-1	-	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³ Sen+	-
Diphenylmethane-4,4-diisocyanate 101-68-8	-	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³ Sen+	TWA: 0.05 mg/m ³ Peak: 0.05 mg/m ³ Sk* respiratory and skin sensitizer inhalable fraction

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

'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 and should not be further exposed to the substance.

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

These Workplace 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 workplace 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.

Appropriate engineering controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, RESPIRATOR.



Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Lightweight protective clothing. Long sleeved clothing.

Hand protection

Wear suitable gloves.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. If determined by a risk assessment an inhalation risk exists, wear an organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Environmental exposure controls

Prevent product from entering drains.

Thermal hazards No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	Yellow
Odor	No information available
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	210°C	CC (closed cup)
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	1.11 g/cm ³	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	575 - 800 mPa s	None known

Other information

Section 10: Stability and reactivity

Reactivity

Reactivity Non-reactive under normal conditions of use, storage and transport. Reacts exothermically on dilution with water.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions Can react exothermically with water liberating carbon dioxide.

Conditions to avoid

Conditions to avoid Extremes of temperature and direct sunlight. Decomposes slowly on exposure to water.

Incompatible materials

Incompatible materials Acids. Bases. Amines. Metals. Water.

Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Nitrogen oxides. Hydrocarbons. Hydrogen chloride.

Section 11: Toxicological information

Information on likely routes of exposure

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

Inhalation Inhalation of vapors in high concentration may cause irritation of respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Eye contact Causes serious eye irritation.

Skin contact Causes skin irritation. May cause sensitization by skin contact. Repeated exposure may cause skin dryness or cracking.

Ingestion Gastrointestinal discomfort.

Symptoms Asthma-like and/ or skin allergy-like symptoms.

Acute toxicity

Numerical measures of toxicity - Product Information

No information available

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Diphenylmethane-4,4-diisocyanate	= 31600 mg/kg (Rat)	-	= 369 mg/m ³ (Rat) 4 h

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Irritating to skin. Classification based on individual ingredients of the mixture.

Serious eye damage/eye irritation Causes serious eye irritation. Classification based on individual ingredients of the mixture.

Respiratory or skin sensitization May cause sensitization by inhalation and skin contact. Classification based on individual ingredients of the mixture.

Germ cell mutagenicity No information available.

Carcinogenicity Contains a known or suspected carcinogen. The table below indicates whether each agency

has listed any ingredient as a carcinogen.

Chemical name	Australia	European Union	IARC
Diphenylmethanediisocyanate, mixture of 2,4 and 4,4 isomers - 5873-54-1	Carc. 2	Carc. 2	-
Diphenylmethane-4,4-diisocyanate - 101-68-8	Carc. 2	Carc. 2	Group 3

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity	No information available.
STOT - single exposure	May cause respiratory irritation.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	No information available.

Section 12: Ecological information

Ecotoxicity

Aquatic ecotoxicity	The environmental impact of this product has not been fully investigated. Keep out of waterways.
Terrestrial ecotoxicity	There is no data for this product.

Persistence and degradability

Persistence and degradability	For the major component: Not biodegradable.
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Bioaccumulative potential

Bioaccumulation	There is no data for this product.
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Chemical name	Partition coefficient
Diphenylmethane-4,4-diisocyanate	4.51

Mobility

Mobility	No information available.
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Other adverse effects

Other adverse effects	No information available.
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Section 13: Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of waste in accordance with environmental legislation.

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

See section 8 for more information

Section 14: Transport information

ADG Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

IATA Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

IMDG Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No information available

Section 15: Regulatory information

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

National regulations

Australia

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS). Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

See section 8 for national exposure control parameters

Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number 6

Australian Industrial Chemicals Introduction Scheme (AICIS)

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Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Methylenediphenylene diisocyanate, polypropylene glycol polymer - 39420-98-9	Present	-
Diphenylmethanediisocyanate, mixture of 2,4 and 4,4 isomers - 5873-54-1	Present	-
Diphenylmethane-4,4-diisocyanate - 101-68-8	Present	-

Illicit Drug Precursors/Reagents

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

Chemical name	National pollutant inventory
Diphenylmethane-4,4-diisocyanate - 101-68-8	10 tonne/yr Threshold category 1

International Inventories

AIIC	All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.
NZIoC	Contact supplier for inventory compliance status.
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.

Legend:**AIIC- Australian Inventory of Industrial Chemicals****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****EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances****ENCS - Japan Existing and New Chemical Substances****IECSC - China Inventory of Existing Chemical Substances****KECL - Korean Existing and Evaluated Chemical Substances****PICCS - Philippines Inventory of Chemicals and Chemical Substances****International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**Section 16: Other information****Reason(s) For Issue:** 5 Yearly Revised Primary SDS**Prepared By** This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and SDS Services).**Revision date:** 09-Sep-2024**Revision Note:**

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend**

SVHC: Substances of Very High Concern for Authorization:

PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances

vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

STOT: Specific Target Organ Toxicity

ATE: Acute Toxicity Estimate

LC50: 50% Lethal Concentration

LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
Australian Industrial Chemicals Introduction Scheme (AICIS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Liquimix Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Liquimix representative or Liquimix Pty Ltd at the contact details on page 1.

Liquimix Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet