Tufflon-D60 Part B

Version	Revision Date:	SDS Number:	Date of last issue: 20.11.2015
1.1	01.05.2019	400001007339	Date of first issue: 20.11.2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Tufflon-D60 Part B

Manufacturer or supplier's details

Company : LiquiMix Pty Ltd
: ABN 32 062 887 585

Address

24 Rosa Place Richlands
Queensland, 4077
Australia

Telephone : + 61 3277 6655

E-mail address : admin@liquimix.com

Emergency telephone number : Australia: 1800 786 152 (ALL HOURS)
International: +65 6336 6011 (ALL HOURS)

Recommended use of the chemical and restrictions on use

Recommended use : Component of a Polyurethane System.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Skin corrosion/irritation : Category 1B

Serious eye damage/eye irritation : Category 1

Acute aquatic toxicity : Category 1

Chronic aquatic toxicity : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
4,4'-methylenebis[N-sec-butylaniline]	5285-60-9	>= 30 - < 60
Polyoxypropylenediamine	9046-10-0	>= 30 - < 60
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-(2-aminomethylethoxy)-	64852-22-8	< 10
diethylmethylbenzenediamine	68479-98-1	< 10

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled	:	If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	No data is available on the product itself.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No data is available on the product itself.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Hazchem Code	:	2X

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection	:	In the case of vapour formation use a respirator with an

approved filter.
Refer to Australian/New Zealand Standard AS/NZS 1715 and AS/NZS 1716 for guidance on selection and use of respiratory devices.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Refer to Australian/New Zealand Standard AS/NZS 2161.1: 2000 for guidance on selection and use of protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.
Refer to Australian/New Zealand Standard AS/NZS 1337:1992 for guidance on selection and use of protective eyeware.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	yellow, clear
Odour	:	No data is available on the product itself.
Odour Threshold	:	No data is available on the product itself.
pH	:	No data is available on the product itself.
Freezing point	:	No data is available on the product itself.
Melting point		No data is available on the product itself.
Boiling point		No data is available on the product itself.
Flash point	:	> 116 °C Method: closed cup Method: open cup
Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.
Flammability (liquids)	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.

Vapour pressure	:	No data is available on the product itself.
Relative vapour density	:	No data is available on the product itself.
Relative density	:	No data is available on the product itself.
Density	:	1 g/cm3 (25 °C)
Solubility(ies)		
Water solubility	:	No data is available on the product itself.
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Auto-ignition temperature	:	No data is available on the product itself.
Thermal decomposition	:	No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	:	No data is available on the product itself.
Viscosity		
Viscosity, dynamic	:	200 - 400 mPa.s
Explosive properties	:	No data is available on the product itself.
Oxidizing properties	:	No data is available on the product itself.
Particle size	:	No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes : No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product : Acute toxicity estimate : 991.48 mg/kg
Method: Calculation method

Components:

Polyoxypropylenediamine:
Acute inhalation toxicity : LC50 (Rat, male and female): > 0.74 mg/l

Exposure time: 8 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute dermal toxicity - Product : Acute toxicity estimate : > 2,000 mg/kg
Method: Calculation method

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation

Product:

Remarks: Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation

Product:

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitisation

Product:

Remarks: Causes sensitisation.

Assessment: No data available

Chronic toxicity

Germ cell mutagenicity

Components:

4,4'-methylenebis[N-sec-butylaniline]**:**
Genotoxicity in vitro : Method: OECD Test Guideline 471
Result: negative

Polyoxypropylenediamine**:**
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

diethylmethylbenzenediamine**:**
Genotoxicity in vitro : Metabolic activation: negative
Method: OECD Test Guideline 476
Result: negative

Components:

diethylmethylbenzenediamine**:**
Genotoxicity in vivo : Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Components:

diethylmethylbenzenediamine:
Species: Rat, (male and female)
Application Route: Oral
Exposure time: 24 month(s)
Dose: 1.8 - 3.2 mg/kg
Frequency of Treatment: 7 daily
Method: OECD Test Guideline 451
Result: negative

Carcinogenicity - Assessment : No data available

Reproductive toxicity

Effects on fertility : No data available

Effects on foetal development : No data available

Reproductive toxicity - Assessment : No data available

STOT - single exposure

No data available

STOT - repeated exposure

Components:

diethylmethylbenzenediamine:
Exposure routes: Ingestion
Target Organs: Pancreas, Liver, Kidney
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Polyoxypropylenediamine:
Species: Rat, male and female
NOAEL: 1000 mg/kg/d
Application Route: Skin contact
Exposure time: 672 h
Method: Subacute toxicity

Species: Rat, male and female
NOAEL: 300 mg/kg/d
Application Route: Skin contact
Exposure time: 2,160 h
Method: Subchronic toxicity

diethylmethylbenzenediamine:
Species: Rat, male and female

NOAEL: 8 - 10 mg/kg
Application Route: Ingestion
Exposure time: 2,160 h
Method: Subchronic toxicity

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Polyoxypropylenediamine**:**
Toxicity to fish : LC50: > 100 mg/l
Exposure time: 96 h

diethylmethylbenzenediamine**:**
Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 200 mg/l
Exposure time: 48 h

Test Type: static test
Test substance: Fresh water
Method: DIN 38412

Components:

Polyoxypropylenediamine:
Toxicity to daphnia and other aquatic invertebrates : EC50: 15 mg/l
Exposure time: 48 h

diethylmethylbenzenediamine:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.5 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.

Components:

Polyoxypropylenediamine:
Toxicity to algae : IC50: 135 mg/l
Exposure time: 72 h

diethylmethylbenzenediamine:
Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): ca. 104 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Components:

diethylmethylbenzenediamine:
M-Factor (Acute aquatic toxicity) : 1
Toxicity to fish (Chronic toxicity) : No data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : No data available

M-Factor (Chronic aquatic toxicity) : No data available

Components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-(2-aminomethylethoxy)-:
Toxicity to microorganisms : LC50: 68 mg/l
Exposure time: 96 h

diethylmethylbenzenediamine:
Toxicity to microorganisms : EC50 (Pseudomonas putida): >= 170 mg/l
Exposure time: 24 h
Test Type: static test

Test substance: Fresh water

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment

Components:

4,4'-methylenebis[N-sec-butylaniline]**:**
Acute aquatic toxicity : Very toxic to aquatic life.

Polyoxypropylenediamine**:**
Acute aquatic toxicity : Harmful to aquatic life.

Components:

4,4'-methylenebis[N-sec-butylaniline]**:**
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Polyoxypropylenediamine**:**
Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-(2-aminomethylethoxy)-**:**
Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Persistence and degradability

Components:

Polyoxypropylenediamine**:**
Biodegradability : Result: Not biodegradable
Biodegradation: < 60 %
Exposure time: 28 d

diethylmethylbenzenediamine**:**
Biodegradability : Result: Not readily biodegradable.
Biodegradation: < 60 %
Exposure time: 28 d

Result: Not readily biodegradable.
Biodegradation: < 1 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Biochemical Oxygen : No data available

Demand (BOD)

Chemical Oxygen Demand (COD)	:	No data available
BOD/COD	:	No data available
ThOD	:	No data available
BOD/ThOD	:	No data available
Dissolved organic carbon (DOC)	:	No data available
Physico-chemical removability	:	No data available
Stability in water	:	No data available

Components:

diethylmethylbenzenediamine:

Photodegradation	:	Test Type: Air Rate constant: < .00001
Impact on Sewage Treatment	:	No data available

Bioaccumulative potential

Components:

4,4'-methylenebis[N-sec-butylaniline]:

Bioaccumulation	:	Bioconcentration factor (BCF): 4,700

diethylmethylbenzenediamine:

Bioaccumulation	:	Bioconcentration factor (BCF): 13.82 Remarks: Bioaccumulation is unlikely. Bioconcentration factor (BCF): 2.75 Remarks: Does not bioaccumulate.

Components:

4,4'-methylenebis[N-sec-butylaniline]:

Partition coefficient: n-octanol/water	:	log Pow: 6.08 Method: QSAR

diethylmethylbenzenediamine:

Partition coefficient: n-octanol/water	:	log Pow: 1.17 (25 °C) Method: OECD Test Guideline 107

Mobility in soil

Mobility	:	No data available

Components:

4,4'-methylenebis[N-sec-butylaniline]:

Distribution among environmental compartments	:	Koc: 4.91 Method: QSAR

diethylmethylbenzenediamine:

Distribution among environmental compartments	:	Koc: 132 - 170 Koc: 31.72 - 551
Stability in soil	:	No data available

Other adverse effects

Environmental fate and pathways	:	No data available
Results of PBT and vPvB assessment	:	No data available
Endocrine disrupting potential	:	No data available
Adsorbed organic bound halogens (AOX)	:	No data available

Hazardous to the ozone layer

Ozone-Depletion Potential		Not applicable
Additional ecological information - Product	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.
Global warming potential (GWP)	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA

UN/ID No.	:	UN 2735
Proper shipping name	:	Amines, liquid, corrosive, n.o.s. (POLYOXYPROPYLENEDIAMINE)
Class	:	8
Packing group	:	II
Labels	:	Corrosive
Packing instruction (cargo aircraft)	:	855
Packing instruction (passenger aircraft)	:	851

IMDG

UN number	:	UN 2735
Proper shipping name	:	AMINES, LIQUID, CORROSIVE, N.O.S. (POLYOXYPROPYLENEDIAMINE)
Class	:	8
Packing group	:	II
Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	UN 2735
Proper shipping name	:	AMINES, LIQUID, CORROSIVE, N.O.S. (POLYOXYPROPYLENEDIAMINE)
Class	:	8
Packing group	:	II
Labels	:	8
Hazchem Code	:	2X

SECTION 15. REGULATORY INFORMATION

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

Standard for the Uniform Scheduling of Medicines and Poisons	:	Schedule 5
Australia Work Health and Safety Regulations - Schedule 10 Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.	:	Not listed

Other international regulations

The components of this product are reported in the following inventories:

CH INV	:	The formulation contains substances listed on the Swiss Inventory
DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
ENCS	:	Not in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

Revision Date	: 01.05.2019 :
Date format	dd.mm.yyyy

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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