

# SAFETY DATA SHEET



Revision date: 02-Oct-2023

Revision Number 1

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### Product identifier

**Product Name** D-R9  
**Product Code(s)** 000000054483

### Other means of identification

### Recommended use of the chemical and restrictions on use

**Recommended use** Polyurethane resin.  
**Uses advised against** No information available

### Supplier

Ixom Operations Pty Ltd  
ABN: 51 600 546 512  
Level 8, 1 Nicholson Street  
Melbourne 3000  
Australia

Telephone Number: +61 3 9906 3000

### 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.

## 2. HAZARDS IDENTIFICATION

### GHS Classification

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 2
<b>Reproductive toxicity</b>	Category 1B
<b>Specific target organ toxicity (single exposure)</b>	Category 3

### **SIGNAL WORD**

Danger

### Label elements

Health hazard  
Exclamation mark

**Hazard statements**

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H360D - May damage the unborn child

**Precautionary Statements - Prevention**

Obtain special instructions before use

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

Do not breathe fume, gas, mist, vapours, spray

Wash hands thoroughly after handling

Use only outdoors or in a well-ventilated area

Wear protective gloves / protective clothing / eye protection / face protection

Use personal protective equipment as required

**Precautionary Statements - Response**

If exposed or concerned: Get medical advice/attention

Specific treatment (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 occurs: Get medical advice/attention

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

**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****General Hazards****Poisons Schedule (SUSMP)**

None allocated

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Mixture**

Chemical name	CAS No.	Weight-%
N-methyl-2-pyrrolidone	872-50-4	5-<25
Triethylamine	121-44-8	1-<3
Non hazardous component(s)	-	to 100

**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. Show this safety data sheet to the doctor in attendance.

<b>Inhalation</b>	Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. Call a physician if symptoms occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
<b>Skin contact</b>	Wash skin with soap and water. Call a physician if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes, and clothing. Do not breathe fume, gas, mist, vapours, spray. Use personal protective equipment as required. See section 8 for more information.

#### **Most important symptoms and effects, both acute and delayed**

<b>Symptoms</b>	Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness). Coughing and/ or wheezing. Difficulty in breathing.
-----------------	---

#### **Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</b>	Treat symptomatically.
---------------------------	------------------------

### **5. FIRE FIGHTING MEASURES**

#### **Suitable Extinguishing Media**

<b>Suitable Extinguishing Media</b>	Dry chemical, CO <sub>2</sub> , water spray or regular foam. Halogenated compounds.
-------------------------------------	---

<b>Unsuitable extinguishing media</b>	No information available.
---------------------------------------	---------------------------

#### **Specific hazards arising from the chemical**

<b>Specific hazards arising from the chemical</b>	Sealed containers may rupture when heated. Non-combustible.
---	---

#### **Special protective actions for fire-fighters**

<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
---	--

### **6. ACCIDENTAL RELEASE MEASURES**

#### **Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	Avoid contact with skin, eyes, and clothing. Do not breathe vapor or mist. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Do not touch or walk through spilled material. Use personal protective equipment as required. Wash thoroughly after handling.
-----------------------------	---

<b>Other information</b>	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.
--------------------------	--

<b>For emergency responders</b>	Use personal protection recommended in Section 8.
---------------------------------	---

#### **Environmental precautions**

<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so.
----------------------------------	---

**Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
<b>Methods for cleaning up</b>	Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Dike to collect large liquid spills.

**7. HANDLING AND STORAGE****Precautions for safe handling**

<b>Advice on safe handling</b>	Not to be used by pregnant workers and workers who have recently given birth or who are breastfeeding. Avoid contact with skin, eyes, and clothing. Do not breathe vapor or mist. Use personal protection equipment. Ensure adequate ventilation. Wash thoroughly after handling.
<b>General hygiene considerations</b>	Regular cleaning of equipment, work area and clothing is recommended. Do not breathe vapor or mist. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Take off contaminated clothing and wash before reuse.

**Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight. Keep at temperatures between 10 °C and 40 °C. Protect from freezing. Keep container closed when not in use.
<b>Incompatible materials</b>	None known based on information supplied.
<b>Poisons Schedule (SUSMP)</b>	None allocated

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

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

1-Methyl-2-pyrrolidone: 8hr TWA = 103 mg/m<sup>3</sup> (25 ppm), 15 min STEL = 309 mg/m<sup>3</sup> (75 ppm), Sk  
 Triethylamine: 8hr TWA = 8 mg/m<sup>3</sup> (2 ppm), 15 min STEL = 17 mg/m<sup>3</sup> (4 ppm)

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.

`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**

Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### 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, CHEMICAL GOGGLES, GLOVES, RESPIRATOR.



#### **Eye/face protection**

Goggles.

#### **Skin and body protection**

Wear suitable protective clothing. Boots. Overalls.

#### **Hand protection**

Impervious gloves.

#### **Respiratory protection**

If determined by a risk assessment an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

#### **Environmental exposure controls**

No information available.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear to Translucent
<b>Color</b>	Yellowish - Bluish
<b>Odor</b>	Slight Amine
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	7.0-9.0	None known
<b>pH (as aqueous solution)</b>	No data available	None known
<b>Melting point / freezing point</b>	No data available	
<b>Boiling point / boiling range</b>	No data available	
<b>Flash point</b>	Not applicable	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known

<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapor pressure</b>	No data available	
<b>Vapor density</b>	No data available	
<b>Relative density</b>	1.04 ± 0.03	
<b>Water solubility</b>	Miscible in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

Other information**10. STABILITY AND REACTIVITY**Reactivity

**Reactivity** No information available.

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** None under normal processing.

Conditions to avoid

**Conditions to avoid** Heat. Do not freeze.

Incompatible materials

**Incompatible materials** None known based on information supplied.

Hazardous decomposition products

**Hazardous decomposition products** Carbon oxides. Nitrogen oxides. Ammonia. Amines.

**11. TOXICOLOGICAL INFORMATION**Acute toxicityInformation 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** Irritating to respiratory system.

<b>Eye contact</b>	Causes serious eye irritation.
<b>Skin contact</b>	Causes skin irritation.
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
<b>Symptoms</b>	Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness). Coughing and/ or wheezing. Difficulty in breathing.

**Numerical measures of toxicity - Product Information**

Refer to component information below.

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
N-methyl-2-pyrrolidone	= 3914 mg/kg ( Rat )	= 8 g/kg ( Rabbit )	> 5.1 mg/L ( Rat ) 4 h
Triethylamine	= 460 mg/kg ( Rat )	= 415 mg/kg ( Rabbit ) = 570 $\mu$ L/kg ( Rabbit )	= 1250 ppm ( 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**

<b>Skin corrosion/irritation</b>	Causes skin irritation. Classification is based on mixture calculation methods based on component data.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation. Classification is based on mixture calculation methods based on component data.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP. (OSHA - Occupational Safety and Health Administration) (IARC - International Agency for Research on Cancer) (NTP - National Toxicology Program).
<b>Reproductive toxicity</b>	H360D - May damage the unborn child. Classification is based on mixture calculation methods based on component data.
<b>STOT - single exposure</b>	May cause respiratory irritation. Classification is based on mixture calculation methods based on component data.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Ecotoxicity****Ecotoxicity** Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
---------------	----------------------	------	-------------	-----------

			microorganisms	
N-methyl-2-pyrrolidone	EC50: >500mg/L (72h, <i>Desmodium subspicatus</i> )	LC50: =832mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: =1072mg/L (96h, <i>Pimephales promelas</i> ) LC50: =1400mg/L (96h, <i>Poecilia reticulata</i> ) LC50: =4000mg/L (96h, <i>Leuciscus idus</i> )	-	EC50: =4897mg/L (48h, <i>Daphnia magna</i> )
Triethylamine	-	LC50: =43.7mg/L (96h, <i>Pimephales promelas</i> )	-	EC50: =200mg/L (48h, <i>Daphnia magna</i> )

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Component Information**

Chemical name	Partition coefficient
N-methyl-2-pyrrolidone	-0.46
Triethylamine	1.45

**Mobility**

**Mobility in soil** No information available.

**Other adverse effects****13. DISPOSAL CONSIDERATIONS****Waste treatment methods**

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

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

**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.



## 15. REGULATORY INFORMATION

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

#### National regulations

##### Australia

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

See section 8 for national exposure control parameters

**Poisons Schedule (SUSMP)**                      None allocated

#### National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
N-methyl-2-pyrrolidone - 872-50-4	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total
Triethylamine - 121-44-8	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total

#### International Inventories

##### **AIIC**

A constituent of this material is not listed on the Australian Inventory of Industrial Chemicals. A constituent of this material is new and has been introduced under an Assessment Certificate for a Polymer of Low Concern granted under the Industrial Chemicals Act 2019.

#### **Legend:**

**AIIC-** Australian Inventory of Industrial Chemicals

#### 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

## 16. OTHER INFORMATION

Supplier Material Safety Data Sheet 05/ 2023

**Reason(s) For Issue:** First Issue Primary SDS

**Issuing Date:** 02-Oct-2023

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

**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 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**

EPA (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)  
 Japan GHS Classification  
 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)  
 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  
 RTECS (Registry of Toxic Effects of Chemical Substances)  
 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 Ixom Operations 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 Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.**

**Ixom Operations 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**