SAFETY DATA SHEET

Issue Date 17-Oct-2017 **Revision Date** 17-Oct-2017 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name Membrane 74 Activator

Other means of identification
Product Code 94DBC
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Industrial Coatings
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
BLOME INTERNATIONAL
1450 Hoff Industrial Drive
O'Fallon, MO 63366

Emergency telephone number
Company Phone Number 636-379-9119
Emergency Telephone CHEMTREC: 800-424-9300
CHEMTREC: 703-527-3887
CANUTEC: 613-966-6666

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Emergency Overview

Danger

Hazard statements
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause respiratory irritation
May cause damage to organs through prolonged or repeated exposure

Appearance viscous **Physical state** liquid **Odor** Aromatic

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
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
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Not applicable.

Unknown acute toxicity
0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	CAS No	Weight-%
Isocyanic acid, polymethylenepolyphenylene ester *	9016-87-9	30 - 60
4,4-Methylenediphenyl diisocyanate *	101-68-8	30 - 60
Benzene, 1-isocyanato-2-[(4-isocyanatophenyl)methyl]- *	5873-54-1	3 - 7

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.

Eye contact Call a physician immediately. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

Skin contact Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If symptoms persist, call a physician.

Inhalation Immediate medical attention is required. Move victim to fresh air. Administer oxygen if breathing is difficult. If breathing is irregular or stopped, administer artificial respiration.

Ingestion Call a physician or poison control center immediately. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Do not touch or walk through spilled material. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment If possible, turn leaking containers so that gas escapes rather than liquid. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Transport to well ventilated area and treat with neutralizing solution: mixture of 80% water and 20% non-ionic surfactant Tergitol TMN-10; or 90% water, 3-8% concentrated ammonia and 2% detergent. Add about 10 parts of neutralizer per part of isocyanate, with mixing. Allow substance to evaporate.

Methods for cleaning up Do not direct water at spill or source of leak. Decontaminate floor with decontamination solution letting stand for at least 15 minutes.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Ensure adequate ventilation, especially in confined areas. Avoid breathing vapors or mists.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a cool, well-ventilated place.

Incompatible materials Water. Alcohols. Strong bases. Strong oxidizing agents. Finely powdered metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
4,4-Methylenediphenyl diisocyanate 101-68-8	TWA: 0.005 ppm	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m³	IDLH: 75 mg/m³ Ceiling: 0.020 ppm 10 min Ceiling: 0.2 mg/m³ 10 min TWA: 0.005 ppm TWA: 0.05 mg/m³

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	viscous	**Odor**	Aromatic
Color	brown	**Odor threshold**	No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	198 °C / 388.4 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	~0	
Vapor density	No information available	
Relative density	1.234	
Water solubility	insoluble Reacts with water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	150-250 mPa s	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization Hazardous polymerization may occur.

Conditions to avoid
Keep from any possible contact with water. Extremes of temperature and direct sunlight. Storage near to reactive materials.

Incompatible materials
Water. Alcohols. Strong bases. Strong oxidizing agents. Finely powdered metals.

Hazardous Decomposition Products
Carbon monoxide. Carbon dioxide (CO2). Nitrogen oxides (NOx). Hydrogen cyanide. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract. May cause sensitization by inhalation. Harmful by inhalation.
Eye contact	Irritating to eyes.
Skin contact	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Irritating to skin.

Ingestion Based on available data, the classification criteria are not met.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	= 49 g/kg (Rat)	> 9400 mg/kg (Rabbit)	= 490 mg/m³ (Rat) 4 h
4,4-Methylenediphenyl diisocyanate 101-68-8	= 31600 mg/kg (Rat) = 9200 mg/kg (Rat)	-	= 369 mg/m³ (Rat) 4 h

Information on toxicological effects

Symptoms May cause an allergic skin reaction. Redness.

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

Sensitization May cause sensitization by inhalation. May cause sensitization by skin contact.
Germ cell mutagenicity Based on available data, the classification criteria are not met.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	-	Group 3	-	-
4,4-Methylenediphenyl diisocyanate 101-68-8	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Not classifiable as a human carcinogen

Reproductive toxicity Based on available data, the classification criteria are not met.
STOT - single exposure Based on available data, the classification criteria are not met.
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.
Chronic toxicity Repeated or prolonged exposure may cause central nervous system damage. Repeated or prolonged contact causes sensitization, asthma and eczemas.
Target Organ Effects Respiratory system, Eyes, Skin, Central nervous system.
Aspiration hazard Based on available data, the classification criteria are not met.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 18,281.00
ATEmix (dermal) 17,108.00
ATEmix (inhalation-dust/mist) 3.30 18282 17094 4

12. ECOLOGICAL INFORMATION

Ecotoxicity
100 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

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
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Isocyanic acid, polymethylenepolyphenylene ester - 9016-87-9	1.0
4,4-Methylenediphenyl diisocyanate - 101-68-8	1.0
Benzene, 1-isocyanato-2-[(4-isocyanatophenyl)methyl]- - 5873-54-1	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
4,4-Methylenediphenyl diisocyanate 101-68-8	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	X	-	-
4,4-Methylenediphenyl diisocyanate 101-68-8	X	X	X
Benzene, 1-isocyanato-2-[(4-isocyanatophenyl)methyl]- 5873-54-1	X	-	-

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 3	**Flammability** 1	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 3*	**Flammability** 1	**Physical hazards** 0	**Personal protection** X

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Revision Note
No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet