

## Safety Data Sheet

### MDI 27

Version 1.2

Revision Date: 12/14/2020

#### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** : MDI 27

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

Recommended use : Industrial chemical

**Manufacturer or supplier's details**

**Company** : Univar Solutions México, S. de R.L. de C.V.  
**Address** : Av. Xola, número 535, piso 2, Col. Del Valle Norte  
Deleg. Benito Juárez CP 03103  
Ciudad de México  
Mexico

**Emergency telephone number:**

Transport North America: CHEMTREC (1-800-424-9300)

CHEMTREC INTERNATIONAL Tel # 703-527-3887

SETIQ 800 00 214 00 / 55 55 59 15 88

**Additional Information:** : Responsible Party: Product Compliance Department  
E-Mail: SDSLA@univarsolutions.com  
SDS Requests: 55 1107 0170  
Website: www.univarsolutions.com

#### SECTION 2. HAZARDS IDENTIFICATION

**GHS Classification**

Acute toxicity (Inhalation) : Category 4  
Skin irritation : Category 2  
Eye irritation : Category 2B  
Respiratory sensitisation : Category 1  
Skin sensitisation : Category 1  
Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 + H320 Causes skin and eye irritation.  
H317 May cause an allergic skin reaction.  
H332 Harmful if inhaled.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.

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Precautionary statements : **Prevention:**  
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
 P264 Wash 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.  
 P285 In case of inadequate ventilation wear respiratory protection.  
**Response:**  
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
 P304 + P340 + P312 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.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
 P337 + P313 If eye irritation persists: Get medical advice/ attention.  
 P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.  
 P362 Take off contaminated clothing and wash before reuse.  
**Storage:**  
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
**Disposal:**  
 P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards

None known.

This SDS was prepared according to NOM-018-STPS-2015.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Hazardous components

CAS-No.	Chemical name	Weight percent
9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester	90 - 100
101-68-8	Benzene, 1,1'-methylenebis[4-isocyanato-	50 - 70
5873-54-1	Benzene, 1-isocyanato-2-[(4-isocyanatophenyl)methyl]-	5 - 10

Any concentration shown as a range is due to batch variation.

### SECTION 4. FIRST AID MEASURES

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General advice	: Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	: Call a physician or poison control centre immediately. If unconscious, place in recovery position and seek medical advice. If breathed in, move person into fresh air. Keep patient warm and at rest. Keep respiratory tract clear. If breathing is difficult, give oxygen. If breathing is irregular or stopped, administer artificial respiration.
In case of skin contact	: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before re-use. Thoroughly clean shoes before reuse. Call a physician if irritation develops or persists.
In case of eye contact	: Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If swallowed	: Gently wipe or rinse the inside of the mouth with water. Do not induce vomiting without medical advice. Keep respiratory tract clear. 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.

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#### SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Alcohol-resistant foam Dry chemical Carbon dioxide (CO <sub>2</sub> ) Water spray
Unsuitable extinguishing media	: High volume water jet
Hazardous combustion products	: No hazardous combustion products are known
Specific extinguishing methods	: Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

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#### SECTION 6. ACCIDENTAL RELEASE MEASURES

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- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.
- 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 : Avoid formation of aerosol.  
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.  
Provide sufficient air exchange and/or exhaust in work rooms.  
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.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.
- Recommended storage temperature : 16 - 36 °C
- Storage period : 12 Months

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
101-68-8	Benzene, 1,1'-methylenebis[4-isocyanato-	LMPE-PPT	0.005 ppm 0.051 mg/m <sup>3</sup>	MX OEL

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		VLE-PPT	0.005 ppm	NOM-010-STPS-2014
R7		TWA	0.005 ppm	ACGIH

#### Personal protective equipment

Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Filter type	:	Particulates type
Hand protection	:	
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles
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	:	brown
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	230 °C (446 °F)
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	1.23 @ 25 °C (77 °F) Reference substance: (water = 1)
Density	:	1.23 g/cm <sup>3</sup> @ 25 °C (77 °F)
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available
Viscosity	:	
Viscosity, dynamic	:	220 mPa.s @ 25 °C (77 °F)

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#### SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Mixture reacts slowly with water resulting in evolution of CO <sub>2</sub> .
Conditions to avoid	: Extremes of temperature and direct sunlight. Exposure to air or moisture over prolonged periods.
Incompatible materials	: Copper galvanized metals Acids Amines Bases Metals water
Hazardous decomposition products	: Carbon dioxide (CO <sub>2</sub> ), carbon monoxide (CO), oxides of nitrogen (NO <sub>x</sub> ), dense black smoke. Hydrocarbons Hydrogen cyanide (hydrocyanic acid) In case of fire hazardous decomposition products may be produced such as: toxic fumes

#### SECTION 11. TOXICOLOGICAL INFORMATION

##### Acute toxicity

##### Product:

Acute oral toxicity	: Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	: Assessment: The component/mixture is moderately toxic after short term inhalation.

##### Components:

##### **9016-87-9:**

Acute oral toxicity	: LD <sub>50</sub> (Rat): 500 mg/kg Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	: LC <sub>50</sub> (Rat): 0.49 mg/l Exposure time: 4 h Test atmosphere: dust/mist

##### **101-68-8:**

Acute inhalation toxicity	: LC <sub>50</sub> (Rat): 10 mg/l Assessment: The component/mixture is moderately toxic after short term inhalation.
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#### **5873-54-1:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after short term inhalation.  
Remarks: No data available

Acute dermal toxicity : LD50 (Rabbit): > 9,400 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

#### **Skin corrosion/irritation**

##### **Components:**

#### **9016-87-9:**

Species: Rabbit  
Result: Irritating to skin.

#### **101-68-8:**

Species: Rabbit  
Result: Irritating to skin.  
Test substance: Information given is based on data obtained from similar substances.

#### **5873-54-1:**

Species: Rabbit  
Result: Irritating to skin.

#### **Serious eye damage/eye irritation**

##### **Components:**

#### **9016-87-9:**

Species: Rabbit  
Result: Irritating to eyes.

#### **101-68-8:**

Species: Rabbit  
Result: Irritating to eyes.  
Test substance: Information given is based on data obtained from similar substances.

#### **5873-54-1:**

Species: Rabbit  
Result: Irritating to eyes.

#### **Respiratory or skin sensitisation**

##### **Components:**

#### **9016-87-9:**

Species: Guinea pig  
Result: May cause sensitisation by skin contact.

Species: Guinea pig  
Result: May cause sensitisation by inhalation.

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#### 101-68-8:

Test Type: Maximization test

Species: Guinea pig

Result: The product is a skin sensitiser, sub-category 1A.

Species: Guinea pig

Result: The product is a respiratory sensitiser, sub-category 1A.

#### 5873-54-1:

Result: May cause sensitisation by skin contact.

Remarks: No data available

Test Type: Maximisation Test

Species: Guinea pig

Result: May cause sensitisation by inhalation.

### Germ cell mutagenicity

#### Components:

##### 9016-87-9:

Germ cell mutagenicity - Assessment : Mutagenicity classification not possible from current data

##### 101-68-8:

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

##### 5873-54-1:

Genotoxicity in vitro : Test Type: Ames test  
Species: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration assay in vivo  
Species: Rat  
Cell type: Bone marrow  
Application Route: Inhalation  
Result: negative

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

### Carcinogenicity

#### Components:

##### 9016-87-9:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

##### 101-68-8:

Species: Rat, (male and female)

Application Route: inhalation (dust/mist/fume)

Exposure time: 1 yr

Activity duration: 6 h

Dose: 0, 0.2, 1.0, 6.0 mg/m<sup>3</sup>

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Frequency of Treatment: 5 days/week

NOAEL: 1 mg/m<sup>3</sup>

LOAEL: 6 mg/m<sup>3</sup>

Result: Animal carcinogen with unknown relevance to humans

Test substance: Information given is based on data obtained from similar substances.

Remarks: Category 2

Carcinogenicity - Assessment : Suspected human carcinogens

**5873-54-1:**

Species: Rat

Application Route: Inhalation

Exposure time: 2 Years

LOAEL: 6 mg/m<sup>3</sup>

Carcinogenicity - Assessment : Suspected human carcinogens

#### Reproductive toxicity

##### Components:

**9016-87-9:**

Reproductive toxicity - Assessment

Fertility classification not possible from current data.

Teratogenicity - Assessment : Embryotoxicity classification not possible from current data.

**101-68-8:**

Reproductive toxicity - Assessment

Fertility classification not possible from current data.

Teratogenicity - Assessment : Embryotoxicity classification not possible from current data.

**5873-54-1:**

Effects on foetal development

: Test Type: Embryo-foetal development

Species: Rat

Application Route: Inhalation

Developmental Toxicity: NOAEL: 4 mg/m<sup>3</sup>

Teratogenicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

#### STOT - single exposure

##### Components:

**9016-87-9:**

Assessment: May cause respiratory irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

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#### **101-68-8:**

Target Organs: Respiratory system

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

#### **5873-54-1:**

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation., May cause respiratory irritation.

#### **STOT - repeated exposure**

##### **Product:**

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

##### **Components:**

#### **9016-87-9:**

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

#### **101-68-8:**

Target Organs: Respiratory system

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

#### **5873-54-1:**

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2., May cause damage to organs through prolonged or repeated exposure.

#### **Further information**

##### **Product:**

Remarks: No data available

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## SECTION 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

#### **Components:**

##### **9016-87-9:**

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other : Remarks: No data available

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aquatic invertebrates  
Toxicity to algae : Remarks: No data available

**5873-54-1:**  
Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 1,000 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to daphnia and other  
aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 129.7 mg/l  
Exposure time: 24 h  
Test Type: Immobilization

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 1,640  
mg/l  
Exposure time: 3 d  
Test Type: static test

Acute aquatic toxicity- As-  
sessment : This product has no known ecotoxicological effects.

Chronic aquatic toxicity- As-  
sessment : This product has no known ecotoxicological effects.

#### Persistence and degradability

##### Components:

**9016-87-9:**  
Biodegradability : Remarks: Not readily biodegradable.

**101-68-8:**  
Biodegradability : aerobic  
Inoculum: Sewage  
Result: Not readily biodegradable.  
Biodegradation: 0 %  
Exposure time: 28 d  
Test substance: Information given is based on data obtained  
from similar substances.

**5873-54-1:**  
Biodegradability : aerobic  
Inoculum: Sewage  
Result: Not readily biodegradable.  
Biodegradation: 0 %  
Exposure time: 28 d

#### Bioaccumulative potential

##### Components:

**101-68-8:**  
Bioaccumulation : Bioconcentration factor (BCF): 200

#### Mobility in soil

No data available

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#### Other adverse effects

##### Product:

Additional ecological information : No data available

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### SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

- Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.  
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-909-4897
- Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

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### SECTION 14. TRANSPORT INFORMATION

**DOT (Department of Transportation):** Not regulated as a dangerous good

**MX-DG(Mexico Road Transportation):** Not regulated as a dangerous good

**IATA (International Air Transport Association):** Not regulated as a dangerous good

**IMDG (International Maritime Dangerous Goods):** Not regulated as a dangerous good

#### Special precautions for user

Not applicable

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### SECTION 15. REGULATORY INFORMATION

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

- TSCA : On TSCA Inventory
- DSL : All components of this product are on the Canadian DSL
- AICS : On the inventory, or in compliance with the inventory
- NZIoC : On the inventory, or in compliance with the inventory
- ENCS : On the inventory, or in compliance with the inventory

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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

## SECTION 16. OTHER INFORMATION

### Further information

Other information : The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (55 1107 0170) [SDSLA@univarsolutions.com](mailto:SDSLA@univarsolutions.com).

The information provided in this 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.

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

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level

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EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50			Lethal Concentration 50%