

Safety Data Sheet

Desmodur E 21

Version 1.1

Revision Date: 12/14/2020

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Desmodur E 21

Recommended use of the chemical and restrictions on use

Recommended use : Raw material for industry

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)
Specific target organ toxicity - repeated exposure : Category 1 (Respiratory Tract)

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 diffi-

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culties if inhaled.
 H335 May cause respiratory irritation.
 H372 Causes damage to organs (Respiratory Tract) through prolonged or repeated exposure.

Precautionary statements : **Prevention:**
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 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

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 59.9999 %

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
101-68-8	Benzene, 1,1'-methylenebis[4-isocyanato-	20 - 30
9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester	10 - 20
5873-54-1	Benzene, 1-isocyanato-2-[(4-isocyanatophenyl)methyl]-	5 - 10

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

SECTION 4. FIRST AID MEASURES

- 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.
Take victim immediately to hospital.
If inhaled, remove to fresh air.
Oxygen or artificial respiration if needed.
- In case of skin contact : If skin irritation persists, call a physician.
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Wash clothing before reuse.
- In case of eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- If swallowed : 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.
Do not induce vomiting without medical advice.
- Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Alcohol-resistant foam
Dry chemical
Carbon dioxide (CO₂)
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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.

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- 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 : < 23 °C
- Storage period : 6 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 ³	MX OEL
		VLE-PPT	0.005 ppm	NOM-010-STPS-2014
R7		TWA	0.005 ppm	ACGIH

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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	:	dark brown
Odour	:	musty
Odour Threshold	:	No data available
pH	:	No data available
Freezing point	:	No data available
Boiling point (Boiling point/boiling range)	:	368 °C (694 °F) (1013 hPa)
Flash point	:	> 250 °C (> 482 °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	:	No data available
Density	:	1.15 g/cm ³ @ 20 °C (68 °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	:	5,400 mPa.s @ 25 °C (77 °F)

SECTION 10. STABILITY AND REACTIVITY

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Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No hazards to be specially mentioned.
Conditions to avoid	: Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	: Copper alloys water Amines strong bases Alcohols
Hazardous decomposition products	: Carbon dioxide (CO ₂), carbon monoxide (CO), oxides of nitrogen (NO _x), dense black smoke. Isocyanates

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:

101-68-8:

Acute inhalation toxicity	: LC50 (Rat): 10 mg/l Assessment: The component/mixture is moderately toxic after short term inhalation.
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9016-87-9:

Acute oral toxicity	: LD50 (Rat): 500 mg/kg Assessment: The component/mixture is moderately toxic after single ingestion.
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Acute inhalation toxicity	: LC50 (Rat): 0.49 mg/l Exposure time: 4 h Test atmosphere: dust/mist
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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

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toxicity

Skin corrosion/irritation

Components:

101-68-8:

Species: Rabbit

Result: Irritating to skin.

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

9016-87-9:

Species: Rabbit

Result: Irritating to skin.

5873-54-1:

Species: Rabbit

Result: Irritating to skin.

Serious eye damage/eye irritation

Components:

101-68-8:

Species: Rabbit

Result: Irritating to eyes.

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

9016-87-9:

Species: Rabbit

Result: Irritating to eyes.

5873-54-1:

Species: Rabbit

Result: Irritating to eyes.

Respiratory or skin sensitisation

Components:

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.

9016-87-9:

Species: Guinea pig

Result: May cause sensitisation by skin contact.

Species: Guinea pig

Result: May cause sensitisation by inhalation.

5873-54-1:

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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:

101-68-8:

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

9016-87-9:

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

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:

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/m³
Frequency of Treatment: 5 days/week
NOAEL: 1 mg/m³

LOAEL: 6 mg/m³

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

9016-87-9:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

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5873-54-1:

Species: Rat

Application Route: Inhalation

Exposure time: 2 Years

LOAEL: 6 mg/m³

Carcinogenicity - Assessment : Suspected human carcinogens

Reproductive toxicity

Components:

101-68-8:

Reproductive toxicity - Assessment

Fertility classification not possible from current data.

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

9016-87-9:

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/m³

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

STOT - single exposure

Components:

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.

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.

5873-54-1:

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: The substance or mixture is classified as specific target organ toxicant, single ex-

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posure, category 3 with respiratory tract irritation., May cause respiratory irritation.

STOT - repeated exposure

Product:

Target Organs: Respiratory Tract

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Components:

101-68-8:

Target Organs: Respiratory system

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

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.

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Further information

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 59.9999 %

Components:

9016-87-9:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae : Remarks: No data available

5873-54-1:

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

Persistence and degradability

Components:

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.

9016-87-9:

- Biodegradability : Remarks: Not readily biodegradable.

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

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.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):

UN3082, Environmentally hazardous substances, liquid, n.o.s., (DIPHENYLMETHANE DIISOCYANATE), 9, III

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

SECTION 15. REGULATORY INFORMATION

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

- TSCA : On TSCA Inventory
- DSL : not determined
- AICS : not determined
- NZIoC : not determined
- ENCS : not determined
- KECI : not determined

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PICCS : not determined
IECSC : not determined

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.

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
EC50	Effective Concentration	NOEC	No Observed Ef-

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EGEST	tration 50% EOSCA Generic Exposure Scenario Tool	OSHA	fect Concentration Occupational Safe- ty & Health Ad- ministration
EOSCA	European Oilfield Specialty Chemi- cals Association	PEL	Permissible Expo- sure Limit
EINECS	European Invento- ry of Existing Chemical Sub- stances	PICCS	Philippines Invento- ry of Commercial Chemical Sub- stances
MAK	Germany Maxi- mum Concentra- tion Values	PRNT	Presumed Not Toxic
GHS	Globally Harmo- nized System	RCRA	Resource Conser- vation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Expo- sure Limit
IC50	Inhibition Concen- tration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Re- search on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Exist- ing Chemical Sub- stances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Invento- ry	UVCB	Unknown or Varia- ble Compositon, Complex Reaction Products, and Bio- logical Materials
<=	Less Than or Equal To	WHMIS	Workplace Haz- ardous Materials Information Sys- tem
LC50		Lethal Concentration 50%	