Hazard(s) identification

· **Classification of the substance or mixture**


GHS08 Health hazard

Resp. Sens. 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carc. 2	H351	Suspected of causing cancer.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.


GHS07

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
STOT SE 3	H335	May cause respiratory irritation.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· *Hazard pictograms*


GHS07

GHS08

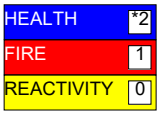
· *Signal word* Danger
· *Hazard-determining components of labeling:*
4,4'-methylenediphenyl diisocyanate
methylenediphenyl diisocyanate
· *Hazard statements:*
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.

May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
· *Precautionary statements*
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
[In case of inadequate ventilation] wear respiratory protection.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF EXPOSED OR CONCERNED: Get medical advice/attention.
Call a poison center/doctor if you feel unwell.
Specific treatment (see on this label).
Get medical advice/attention if you feel unwell.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a poison center/doctor.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**
· *NFPA ratings (scale 0 - 4)*

Health = 2
Fire = 1
Reactivity = 0

· *HMIS-ratings (scale 0 - 4)*



Health = *2
Fire = 1
Reactivity = 0

· *Other hazards*
· *Results of PBT and vPvB assessment*
PBT: Not applicable.
vPvB: Not applicable.

Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.
· Dangerous components:101-68-84,4'-methylenediphenyl diisocyanate 25-≤50%
Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335

Dangerous components (Contd.): 26447-40-5 -methylenediphenyl diisocyanate ≥0.1-<1%
Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335

First-aid measures

· **Description of first aid measures**
· **General information:** Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:** Seek medical treatment in case of complaints. Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:** Rinse opened eye for 15 minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:** Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if victim is unconscious or having convulsions. If symptoms persist consult doctor.
· **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

Fire-fighting measures

· **Extinguishing media:**
· Suitable extinguishing agents: water spray, dry powder, carbon dioxide, foam
· **Special hazards arising from the substance or mixture:**
Hazards during fire-fighting: nitrous gases, fumes/smoke, isocyanate, vapor
· **Advice for firefighters:**
· Protective equipment: Firefighters should be equipped with self-contained breathing apparatus and turn out gear.
· **Additional information:**
Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Accidental release measures

· **Personal precautions, protective equipment and emergency procedures:**
Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.
· **Environmental precautions:**
· Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Dispose of the collected material according to regulations.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals:**

· **PAC-1:** *101-68-8; 4,4'-methylenediphenyl diisocyanate; 0.45 mg/m³*
26447-40-5; methylenediphenyl diisocyanate; 29 mg/m³

· **PAC-2:** *101-68-8; 4,4'-methylenediphenyl diisocyanate; 5 mg/m³*
26447-40-5; methylenediphenyl diisocyanate; 40 mg/m³

· **PAC-3:** *101-68-8; 4,4'-methylenediphenyl diisocyanate; 55 mg/m³*
26447-40-5; methylenediphenyl diisocyanate; 240 mg/m³

Handling and storage

· **Precautions for safe handling**
Ensure thorough ventilation of stores and work area. Protect against moisture.
Ensure good ventilation/exhaustion at the workplace. Avoid aerosol formation. When handling heated product, vapors of the product should be ventilated, and respiratory protection used. Wear respiratory protection when spraying. Danger of busting when sealed gas-tight. Protect against moisture. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
Segregate from foods and animal feeds. Segregate from acids and bases.
· **Storage**
· *Requirements to be met by storerooms and receptacles:*
Carbon Steel, (Iron), High density polyethylene (HDPE), Low density polyethylene (LDPE)
· *Information about storage in one common storage facility:* Not required.
· *Further information about storage conditions:* Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available.

Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
101-68-8 4,4'-methylenediphenyl diisocyanate

PEL: *Ceiling limit value: 0.2 mg/m³, 0.02 ppm*

REL: *Long-term value: 0.05 mg/m³, 0.005 ppm Ceiling limit value: 0.2* mg/m³, 0.02* ppm *10-min*

TLV: *Long-term value: 0.051 mg/m³, 0.005 ppm*

· *Additional information:* The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· *General protective and hygienic measures:*
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

· *Breathing equipment:*
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· *Protection of hands:*

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· *Material of gloves*
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· *Penetration time of glove material*
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· *Eye protection:*

Tightly sealed goggles

· *Body protection: Protective work clothing*

Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· ***Appearance:***

Form:	*Liquid*
Color:	*yellow, clear*
Odor:	*Mild*
Odor threshold:	*Not determined.*
· **pH-value:**	*Not determined.*

· ***Change in condition***

Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*200 °C (392 °F)*
· ***Flash point:***	*200 °C (392 °F)*
· ***Flammability (solid, gaseous):***	*Not applicable.*
· ***Ignition temperature:***	*520 °C (968 °F)*
· ***Decomposition temperature:***	*Not determined.*
· ***Auto igniting:***	*Product is not self igniting.*

· **Danger of explosion:** *Product does not present an explosion hazard.*
· **Explosion limits:**
Lower: *Not determined.*
Upper: *Not determined.*
· **Vapor pressure:** *Not determined.*
· **Density at 20 °C (68 °F):** *1.09881 g/cm³ (9.16957 lbs/gal)*
· *Relative density* *Not determined.*
· *Vapor density* *Not determined.*
· *Evaporation rate* *Not determined.*
· **Solubility in / Miscibility with *Water:*** *Not miscible or difficult to mix.*
· **Partition coefficient (n-octanol/water):** *Not determined.*
· **Viscosity:**
Dynamic: *Not determined.*
Kinematic: *Not determined.*
· **Solvent content:**
VOC content: *0.00 %*
0.0 g/l / 0.00 lb/gl
Solids content: *41.3 %*
· **Other information** *No further relevant information available.*

Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions**
Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.
Exothermic reaction. Reacts with strong acids and alkalies. Reacts with oxidizing agents.
· **Conditions to avoid** Avoid moisture
· **Incompatible materials:**
acids, amines, alcohols, water, Alkalines, strong bases, Products that react with isocyantes
· **Hazardous decomposition products:**
aromatic isocyanates, gases/vapours
carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide

Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· ***LD/LC50 values that are relevant for classification:***
ATE (Acute Toxicity Estimate)

Oral	*LD50*	*5,324 mg/kg*
Inhalative	*LC50/4 h*	*(mouse) 26.6 mg/l*

101-68-8 4,4'-methylenediphenyl diisocyanate *Oral LD50 2,200 mg/kg (mouse)*

· **Primary irritant effect:**

· **on the skin:** *Irritant to skin and mucous membranes.*
on the eye: *Irritating effect.*
Sensitization: *Sensitization possible through inhalation. Sensitization possible through skin contact.*

· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations: Harmful
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
101-68-8 4,4'-methylenediphenyl diisocyanate 3

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

Ecological information

· **Toxicity**
· **Aquatic toxicity:** *No further relevant information available.*
· **Persistence and degradability** *No further relevant information available.*
· **Behavior in environmental systems:**
· **Bioaccumulative potential** *No further relevant information available.*
· **Mobility in soil** *No further relevant information available.*
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Results of PBT and vPvB assessment**
· **PBT:** *Not applicable.*
· **vPvB:** *Not applicable.*
· **Other adverse effects** *No further relevant information available.*

Disposal considerations

Waste treatment methods
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Incinerate in a licensed facility. Dispose of in a licensed facility. Do not discharge substance/ product into sewer system.
· **Uncleaned packagings:**
· **Recommendation: Disposal must be made according to official regulations.**

Transport information

· **UN-Number**
· **DOT, ADN, IMDG, IATA** *not regulated*

· **UN proper shipping name**
· **DOT, ADN, IMDG, IATA** *not regulated*

· **Transport hazard class(es)**

· **DOT, ADN, IMDG, IATA**
· **Class** *not regulated*

· **Packing group**
· **DOT, IMDG, IATA** *not regulated*

· **Environmental hazards:** *Not applicable.*
· **Special precautions for user** *Not applicable.*
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** *Not applicable.*
· **UN "Model Regulation":** *not regulated*

Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**
· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.
· **Section 313 (Specific toxic chemical listings):**
101-68-8 4,4'-methylenediphenyl diisocyanate
· **TSCA (Toxic Substances Control Act):**
101-68-8 4,4'-methylenediphenyl diisocyanate
25686-28-6 Benzene, 1,1'-methylenebis[4-isocyanato-, homopolymer
26447-40-5 methylenediphenyl diisocyanate
· **Proposition 65**
· **Chemicals known to cause cancer:**
None of the ingredients is listed.
· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.
· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.
· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**
· **EPA (Environmental Protection Agency)**
101-68-8 4,4'-methylenediphenyl diisocyanate D, CBD
· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.
· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.
· **GHS label elements** *The product is classified and labeled according to the Globally Harmonized System (GHS).*
· **Hazard pictograms**

GHS07 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**
4,4'-methylenediphenyl diisocyanate
methylenediphenyl diisocyanate
· **Hazard statements**
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
[In case of inadequate ventilation] wear respiratory protection.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a poison center/doctor if you feel unwell.
Specific treatment (see on this label).
Get medical advice/attention if you feel unwell.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a poison center/doctor.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** *Environment protection department.*
· **Contact:** *Safety Department*
· **Date of preparation / last revision** *04/09/2018 / 7*
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
· *** Data compared to the previous version altered.**

Hazard(s) identification

· ***Classification of the substance or mixture***

GHS08 Health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· *Hazard pictograms*

GHS07 GHS08

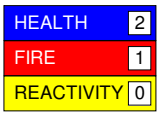
· ***Signal word*** *Warning*

· ***Hazard-determining components of labeling:***
diethylmethylbenzenediamine
· ***Hazard statements***
Causes serious eye irritation.
May cause damage to organs through prolonged or repeated exposure.
· ***Precautionary statements***
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical advice/attention if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**
· *NFPA ratings (scale 0 - 4)*

Health = 2
Fire = 1
Reactivity = 0

· ***HMIS-ratings (scale 0 - 4)***



Health = 2
Fire = 1
Reactivity = 0

· ***Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*

Composition/information on ingredients

· ***Chemical characterization: Mixtures***
· ***Description:*** *Mixture of the substances listed below with nonhazardous additions.*

68479-98-1 diethylmethylbenzenediamine 10%
STOT RE 2, H373; Acute Tox. 4, H302; Acute Tox. 4, H312; Eye Irrit. 2A, H319

· ***Dangerous components:***

First-aid measures

· **Description of first aid measures**
· **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*
· **After skin contact:** *Generally the product does not irritate the skin.*
· **After eye contact:** *Rinse opened eye for 15 minutes under running water. If symptoms persist, consult a doctor.*
· **After swallowing:**
Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if victim is unconscious or having convulsions. If symptoms persist consult doctor.
· ***Information for doctor:***
· ***Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

Fire-fighting measures

· **Extinguishing media**
· ***Suitable extinguishing agents:*** *water spray, dry powder, carbon dioxide, foam*
· **Special hazards arising from the substance or mixture**
Hazards during fire-fighting:
nitrous gases, fumes/smoke, isocyanate, vapor

· **Advice for firefighters**
· **Protective equipment:**
Firefighters should be equipped with self-contained breathing apparatus and turn out gear.
· ***Additional information***
Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Dispose of the collected material according to regulations.
Dispose contaminated material as waste according to item 13.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
· **Protective Action Criteria for Chemicals**
· ***PAC-1:***

102-60-3	*1,1',1",1'"-ethylenedinitrilotetrapropan-2-ol*	*34 mg/m³*

· ***PAC-2:***

102-60-3	*1,1',1",1'"-ethylenedinitrilotetrapropan-2-ol*	*370 mg/m³*

· ***PAC-3:***

102-60-3	*1,1',1",1'"-ethylenedinitrilotetrapropan-2-ol*	*2,200 mg/m³*

Handling and storage

· **Handling:**
· **Precautions for safe handling** Ensure thorough ventilation of stores and work area. Protect against moisture.
· **Information about protection against explosions and fires:** No special measures required.
· **Conditions for safe storage, including any incompatibilities**
Segregate from foods and animal feeds. Segregate from acids and bases.
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Carbon Steel, (Iron), High density polyethylene (HDPE), Low density polyethylene (LDPE)
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available.

Exposure control/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.
· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· *General protective and hygienic measures:*
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***Eye protection:***

Tightly sealed goggles

· ***Body protection:*** *Protective work clothing*

Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· ***Appearance:***

Form:	*Liquid*
Color:	*Clear to slight*
· ***Odor:***	*Cloudy slight odour*
· ***Odor threshold:***	*Not determined.*
· ***pH-value:***	*Not determined.*
· ***Change in condition***	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*200 °C (392 °F)*
· ***Flash point:***	*94 °C (201.2 °F)*

· **Flammability (solid, gaseous):**	> Not applicable.
· **Ignition temperature:**	420 °C (788 °F)
· *Decomposition temperature:*	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
·**Vapor pressure at 20 °C (68 °F):**	Not determined.
·**Density at 20 °C (68 °F):**	1.02691 g/cm³ (8.56956 lbs/gal)
·*Relative density*	Not determined.
·*Vapor density*	Not determined.
·*Evaporation rate*	Not determined.
· **Solubility in / Miscibility with Water:**	Not miscible or difficult to mix.
Partition coefficient (n-octanol/water):	Not determined.
· **Viscosity:**	
Dynamic at 20 °C (68 °F):	*800 mPas*
Kinematic:	*Not determined.*
Solvent content:	*0.00 %*
· ***VOC content:***	*0.0 g/l / 0.00 lb/gl*
· **Other information**	*No further relevant information available.*

Stability and reactivity

· **Reactivity:** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions**
Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.
Exothermic reaction. Reacts with strong acids and alkalies. Reacts with oxidizing agents.
· **Conditions to avoid** Avoid moisture
· **Incompatible materials:**
acids, amines, alcohols, water, Alkalines, strong bases, Products that react with isocyantes
· **Hazardous decomposition products:**
aromatic isocyanates, gases/vapours
carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide

Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· ***LD/LC50 values that are relevant for classification:***

Oral	*LD50*	*7,380 mg/kg (rat)*
Dermal	*LD50*	*>20,000 mg/kg (rat)*

68479-98-1 diethylmethylbenzenediamine

Oral	*LD50*	*738 mg/kg (rat)*
Dermal	*LD50*	*>2,000 mg/kg*

· Primary irritant effect:
· on the skin: No irritant effect.
· on the eye: Irritating effect.
· Sensitization: No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

· Carcinogenic categories
· *IARC (International Agency for Research on Cancer)*
None of the ingredients is listed.

· *NTP (National Toxicology Program)*
None of the ingredients is listed.

· *OSHA-Ca (Occupational Safety & Health Administration)*
None of the ingredients is listed.

Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· *General notes:*
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Incinerate in a licensed facility. Dispose of in a licensed facility. Do not discharge substance/ product into sewer system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

Transport information

· ***UN-Number***	
· ***DOT***	*not regulated*
· ***IMDG, IATA***	*UN3082*
· ***UN proper shipping name***	*not regulated*
· ***DOT***	*ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (diethylmethylbenzenediamine), MARINE POLLUTANT*
· ***IMDG***	*ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (diethylmethylbenzenediamine)*
· ***IATA***	
· ***Transport hazard class(es)***	*not regulated*
· ***DOT***	
· ***Class***	
· ***IMDG, IATA***	

· ***Class***	*9 Miscellaneous dangerous substances and articles*
· ***Label***	*9*
· ***Packing group***	
· ***DOT***	*not regulated*
· ***IMDG, IATA***	*III*
· ***Environmental hazards:***	*Product contains environmentally hazardous substances: diethylmethylbenzenediamine*
· ***Marine pollutant:***	*Symbol (fish and tree)*
· ***Special marking (IATA):***	*Symbol (fish and tree)*
· ***Special precautions for user***	*Warning: Miscellaneous dangerous substances and articles*
· ***Danger code (Kemler):***	*90*
· ***EMS Number:***	*F-A,S-F*
· ***Stowage Category***	*A*
· ***Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code***	*Not applicable.*

· ***Transport/Additional information:***
· ***IMDG***
· ***Limited quantities (LQ)*** *5L*
· ***Excepted quantities (EQ)*** *Code: E1*
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· ***UN "Model Regulation":*** *UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (DIETHYLMETHYLBENZENEDIAMINE), 9, III*

Regulatory information

· ***Safety, health and environmental regulations/legislation specific for the substance or mixture***
· ***Sara***
· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.
· **Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.
· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.
· **Proposition 65**
· **Chemicals known to cause cancer:**
None of the ingredients is listed.
· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.
· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.
· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.
· **Carcinogenic categories**
· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.
· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.
· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.
· ***GHS label elements*** *The product is classified and labeled according to the Globally Harmonized System (GHS).*
· ***Hazard pictograms***

GHS07 GHS08

· **Signal word** Warning

· **Hazard-determining components of labeling:**
diethylmethylbenzenediamine
· **Hazard statements**
Causes serious eye irritation.
May cause damage to organs through prolonged or repeated exposure.
· **Precautionary statements**
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical advice/attention if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Environment protection department.
· **Contact:** Safety Department
· **Date of preparation / last revision** 04/09/2018 / 5
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
· *** Data compared to the previous version altered.**