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SDS
Advanced Polymer Technology

QUALIPUR 3401

1	PRODUCT AND COMPANY IDENTIFICATION
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Product Identifier: QUALIPUR 3401
Revision Date: 6/11/2018
Version: 100

Supplier Details: Advanced Polymer Technology
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Classification of Substance**GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):**

Health, Respiratory or skin sensitization, 1 Respiratory
Health, Specific target organ toxicity - Repeated exposure, 2
Health, Acute toxicity, 4 Oral
Health, Acute toxicity, 4 Inhalation
Health, Skin corrosion/irritation, 2
Health, Serious Eye Damage/Eye Irritation, 2 A
Health, Respiratory or skin sensitization, 1 Skin
Health, Specific target organ toxicity - Single exposure, 3

GHS Label Elements, Including Precautionary Statements

GHS Signal Word: DANGER

GHS Hazard Pictograms:**GHS Hazard Statements:**

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure
H302 - Harmful if swallowed
H332 - Harmful if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
H335 - May cause respiratory irritation

GHS Precautionary Statements:

P285 - In case of inadequate ventilation wear respiratory protection.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P342+311 - Call a POISON CENTER or doctor/physician.
P332+313 - If skin irritation occurs: Get medical advice/attention.
P337+313 - Get medical advice/attention.
P314 - Get Medical advice/attention if you feel unwell.
P302+352 - IF ON SKIN: Wash with soap and water.
P403+233 - Store in a well ventilated place. Keep container tightly closed.

Chemical Ingredients		
CAS#	%	Chemical Name
1408295-67-9	50-100%	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[[[(3-isocyanatomethylphenyl)amino]carbonyl]-.omega.-[[[(3-isocyanatomethylphenyl)amino]carbonyl]oxy]-
1359944-75-4	<10%	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[[[(3-isocyanatomethylphenyl)amino]carbonyl]-.omega.-[[[(3-isocyanatomethylphenyl)amino]carbonyl]oxy]-
26447-40-5	<10%	Benzene, 1,1'-methylenebis[isocyanato-
101-68-8	<10%	4,4'-Methylenediphenyl diisocyanate
64742-46-7	10-25%	Distillates, petroleum, hydrotreated middle

- Inhalation:** Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation. In case of irregular breathing or respiratory arrest provide artificial respiration.
- Skin Contact:** Immediately wash with water and soap and rinse thoroughly. Immediately remove any clothing soiled by the product. If skin irritation continues, consult a doctor.
- Eye Contact:** Protect unharmed eye. Rinse opened eye for several minutes under running water. Remove contact lenses if worn, if possible. Rinse opened eye for several minutes under running water. Then consult a doctor.
- Ingestion:** Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately.

Most important symptoms and effects, both acute and delayed

Asthma attacks
Allergic reactions
Breathing difficulty
Coughing

Hazards

Danger of impaired breathing.
Danger of pulmonary oedema.
Danger of pneumonia.
Danger of convulsion.
Danger of disturbed cardiac rhythm.

Indication of any immediate medical attention and special treatment needed

Contains isocyanates. Consult literature for specific antidotes.
Medical supervision for at least 48 hours.
Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.
Monitor circulation, possible shock treatment.
Later observation for pneumonia and pulmonary oedema.
If necessary oxygen respiration treatment.
Treat skin and mucous membrane with antihistamine and corticoid preparations.

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· For safety reasons unsuitable extinguishing agents: Water.

· Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Hydrogen cyanide (HCN)

Carbon monoxide (CO)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

Advice for firefighters

· Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information Cool endangered receptacles with water spray.

Isolate area and prevent access.

Remove persons from danger area.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Personal precautions, protective equipment and emergency procedures

Use respiratory protective device against the effects of fumes/dust/aerosol.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to regulations.

Ensure adequate ventilation.

Additional Spill Procedures/Neutralization: Neutralization solutions:

(1) Colorimetric Laboratories Inc. (CLI) decontamination solution.

(2) A mixture of 75% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10) and 5% npropanol.

(3) A mixture of 80% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10).

(4) A mixture of 90% water, 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.

Handling Precautions:

Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Keep respiratory protective device available.

Storage Requirements:

Requirements to be met by storerooms and receptacles:
Provide ventilation for receptacles.
Store in a cool location.
Protect from humidity and water.
Avoid storage near extreme heat, ignition sources or open flame.

Information about storage in one common storage facility:
Store away from water.
Store away from foodstuffs.
Do not store together with oxidizing and acidic materials.

Further information about storage conditions:
Store in cool, dry conditions in well sealed receptacles.
Store receptacle in a well ventilated area.
Protect from humidity and water.
Protect from heat and direct sunlight.
Keep container tightly sealed.

Engineering Controls:

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Ensure compliance with all relevant OSHA regulations.

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.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

Respiratory protection:

An air-supplied respirator must be worn during spray applications, during long-term (over 1 hour) exposures when the product is heated or in environments of high concentrations near the TLV, an air-purifying respirator equipped with organic cartridges or canisters and dust filters can be used. However, due to the poor warning properties of this product, proper fit and timely replacement of filter elements must be ensured. Observe OSHA regulations for respirator use (29 CFR 1910.134).

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.

For the permanent contact gloves made of the following materials are suitable:

Butyl rubber, BR
Nitrile rubber, NBR

Eye protection:

Contact lenses should not be worn.
Safety glasses with side shields or face shield strongly suggested.

Body protection: Use protective suit.

Limitation and supervision of exposure into the environment
No further relevant information available.

Risk management measures

Organizational measures should be in place for all activities involving this product.

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

PEL (USA) Short-term value: C 0,2 mg/m³, C 0,02 ppm

REL (USA) Short-term value: C 0,2* mg/m³, C 0,02* ppm, Long-term value: 0,05 mg/m³, 0,005 ppm, *10-min

TLV (USA) 0,051 mg/m³, 0,005 ppm

EL (Canada) Short-term value: C 0,01 ppm, Long-term value: 0,005 ppm, Skin; S

EV (Canada) 0,005 ppm

Appearance:

Clear Brown Liquid

Physical State:

Liquid

Specific Gravity or Density:

1.1 g/mL

Flash Point:

388 °F / 198 °C

Autoignition

>572 °F / >300 °C

Temperature:

Chemical Stability:	No decomposition if used and stored according to specifications.
Conditions to Avoid:	Keep ignition sources away - Do not smoke.
Identification:	Moisture. Keep away from heat and direct sunlight. Store away from oxidizing agents.
Materials to Avoid:	Reacts with water. Reacts with oxidizing agents. Reacts with alkali, amines and strong acids. Contact with acids releases toxic gases. Reacts with peroxides and other radical forming substances. Reacts with certain metals.
Hazardous Decomposition:	Carbon monoxide and carbon dioxide Nitrogen oxides (NO _x) Hydrogen cyanide (prussic acid) Poisonous gases/vapours
Hazardous Polymerization:	Reacts with water.

LD/LC50 values relevant for classification:**101-68-8 4,4'-methylenediphenyl diisocyanate**

Oral LD50 2200 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.

Subacute to chronic toxicity: Toxic and/or corrosive effects may be delayed up to 24 hours.**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful Irritant

Acute effects (acute toxicity, irritation and corrosivity):

In addition to local irritant manifestations, there is a narcotic effect when inhaling high concentrations, with the danger of central respiratory arrest.

Sensitisation: Sensitization possible by inhalation and/or dermal contact.**Repeated dose toxicity:**

May cause damage to organs through prolonged or repeated exposure .

Repeated exposures may result in skin and/or respiratory sensitivity.

Aquatic toxicity: The material is harmful to the environment.

Persistence and degradability The product is partly biodegradable. Significant residuals remain.

Bioaccumulative potential Does not accumulate in organisms

Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Harmful to fish

Additional ecological information:

General notes:

This statement was deduced from the properties of the single components.

Avoid transfer into the environment.

Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.

Water hazard class 1 (German Regulation) (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.

Harmful to aquatic organisms.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Can be disposed of with household garbage with prior chemical-physical or biological treatment following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Solvent naphtha

UN-Number DOT, ADR, ADN, IMDG, IATA

N/A

UN proper shipping name DOT, ADR, ADN, IMDG, IATA

Aromatic Isocyanate Prepolymer

Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class

N/A

Packing group DOT, ADR, IMDG, IATA

N/A

Marine pollutant

No

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"

15	REGULATORY INFORMATION
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Component (CAS#) [%] - CODES

 Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[[(3-isocyanatomethylphenyl) amino]carbonyl]-.omega.-[[(3-isocyanatomethylphenyl) amino]carbonyl]oxy]- (1408295-67-9) [50-100%]

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[[(3-isocyanatomethylphenyl) amino]carbonyl]-.omega.-[[(3-isocyanatomethylphenyl) amino]carbonyl]oxy]- (1359944-75-4) [<10%]

Benzene, 1,1'-methylenebis[isocyanato- (26447-40-5) [<10%] TSCA

4,4'-Methylenediphenyl diisocyanate (101-68-8) [<10%] CERCLA, HAP, MASS, NJHS, OSHAWAC, PA, SARA313, TSCA, TXAIR

Distillates, petroleum, hydrotreated middle (64742-46-7) [10-25%] TSCA

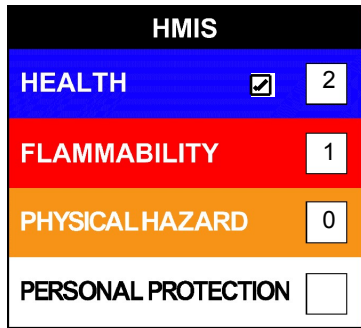
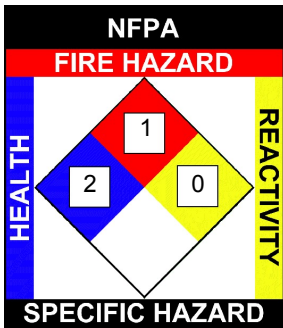
Regulatory CODE Descriptions

 TSCA = Toxic Substances Control Act
 CERCLA = Superfund Cleanup Substances
 HAP = Hazardous Air Pollutants
 MASS = MA Massachusetts Hazardous Substances List
 NJHS = NJ Right-to-Know Hazardous Substances
 OSHAWAC = OSHA Workplace Air Contaminants
 PA = PA Right-To-Know List of Hazardous Substances
 SARA313 = SARA 313 Title III Toxic Chemicals
 TXAIR = TX Air Contaminants with Health Effects Screening Level

16	OTHER INFORMATION
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NFPA: Health = 2, Fire = 1, Reactivity = 0, Specific Hazard = n/a

HMIS III: Health = 2(Chronic), Fire = 1, Physical Hazard = 0



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.

Revision Date: 6/11/2018