SDS (Safety Data Sheet)
Qualipur 372 Part B

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: QUALIPUR 372 Part B
Revision Date: 6/12/2018

Supplier Details: Advanced Polymer Technology
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2. HAZARDS IDENTIFICATION

Classification of Substance
GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):
Health, Skin corrosion/irritation, 2
Health, Respiratory or skin sensitization, 1 Skin
Health, Serious Eye Damage/Eye Irritation, 2 A
Health, Acute toxicity, 4 Inhalation
Health, Respiratory or skin sensitization, 1 Respiratory
Health, Specific target organ toxicity - Single exposure, 3
Health, Carcinogenicity, 2
Health, Specific target organ toxicity - Repeated exposure, 2

GHS Label Elements, Including Precautionary Statements
GHS Signal Word: DANGER
GHS Hazard Pictograms:

GHS Hazard Statements:
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms of breathing difficulties if inhaled

H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

GHS Precautionary Statements:
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P370 - In case of fire: _
P378 - Use CO2, foam, extinguishing powder for extinction
P403+233 - Store in a well ventilated place. Keep container tightly closed.
P501 - Dispose of contents/container in accordance with local regulation

Hazards not Otherwise Classified (HNOC) or not Covered by GHS

Persons who suffer from hypersensitivity of the respiratory tract (e.g. asthmatics and chronic bronchitis sufferers) should avoid handling this product. Symptoms affecting the respiratory tract can also occur several hours after overexposure.
Dust, vapors and aerosols are the primary risk to the respiratory tract.

3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPOSITION/INFORMATION ON INGREDIENTS		
CAS	%	Chemical Name
101-68-8	25-50%	4,4’-Methylenediphenyl diisocyanate
9016-87-9	25-50%	Isocyanic acid, polymethylenepolyphenylene ester
26447-40-5	10-20%	Benzene, 1,1’-methylenebis[isocyanato-

4. FIRST AID MEASURES

Inhalation: Supply fresh air and to be sure call for a doctor.In case of unconsciousness place patient stably in side position for transportation.

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.

5. FIRE FIGHTING MEASURES

Flash Point: 226 °C

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.

Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area.

Advice for fire-fighters:
During fire-fighting respirator with independent air-supply and airtight garment is required.
Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

Unsuitable extinguishing media: High volume water jet

6. ACCIDENTAL RELEASE MEASURES

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.

7. HANDLING AND STORAGE

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

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

Personal Protective Equipment:

General protective and hygienic measures:
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 airpurifying 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.

Control parameters
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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear Brown Liquid

Physical State: Liquid

Specific Gravity or Density: 1.198 kg/m3

Boiling Point: 208 °C (406 °F)

Odor: Slightl characteristic

Flash Point: 226 °C

Autoignition Temperature: 208 °C (406 °F)

10. STABILITY AND REACTIVITY

Chemical Stability: No decomposition if used and stored according to specifications.

Conditions to AvoIdentification:
Keep ignition sources away - Do not smoke.
Moisture.
Keep away from heat and direct sunlight.
Store away from oxidizing agents.

Materials to AvoIdentification:
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
Hydrogen cyanide (prussic acid)
Poisonous gases/vapours

Hazardous Polymerization: Polymerises at about 200 °C with evolution of CO2.

11. TOXICOLOGICAL INFORMATION

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.

12. ECOLOGICAL INFORMATION

Aquatic toxicity: The material is harmful to the environment.

Persistence and degradability: The product is partly biodegradale. Significant residuals remain.

Bioaccumulative potential: Does not accumulate in organisms

Mobility in soil: No further relevant information available.

Ecotoxical 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.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

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. TRANSPORT INFORMATION

Component (CAS#) [%] - CODES

- 4,4’-Methylenediphenyl diisocyanate (101-68-8) [25-50%] CERCLA, HAP, MASS, NJHS, OSHAWAC, PA, SARA313, TSCA,TXAIR
- Isocyanic acid, polymethylenepolyphenylene ester (9016-87-9) [25-50%] SARA313, TSCA
- Benzene, 1,1’-methylenebis[isocyanato- (26447-40-5) [10-20%] TSCA

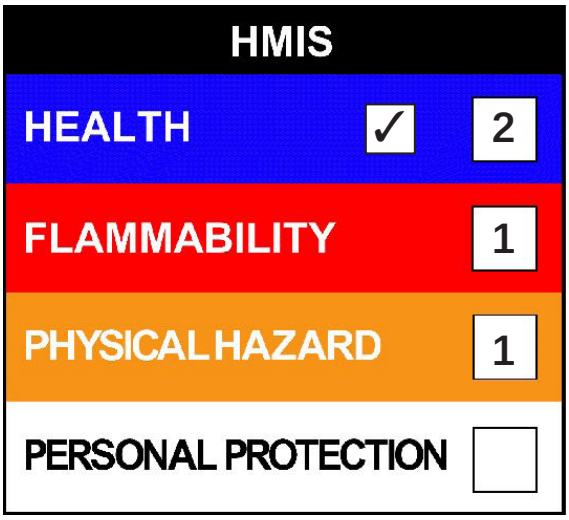
Regulatory CODE Descriptions:

- 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
- TSCA = Toxic Substances Control Act
- TXAIR = TX Air Contaminants with Health Effects Screening Level

16. OTHER INFORMATION

NFPA: Health = 2, Fire = 1, Reactivity = 1, Specific Hazard = n/a
HMIS III: Health = 2(Chronic), Fire = 1, Physical Hazard = 1



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: 6/12/2018

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