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JANUARY 2023

Technovit 4000 powder

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Technovit 4000 Syrup 1

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MATERIAL SAFETY DATA SHEET

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SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

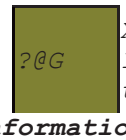
PRODUCT NAME: **Technovit 4000 powder**

SECTION 2. *Composition/Data on components:*

Chemical characterization
· ***Description:*** *-*
· ***Dangerous components:***
94-36-0 dibenzoyl peroxide Xi, E; R 2-36-43 0-5%
· ***Additional information*** *For the wording of the listed risk phrases refer to section 16.*

SECTION 3. *Hazards identification*

Hazard description:



Xi
Irritan
t

· ***Information pertaining to particular dangers for man and environment***
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
R 43 May cause sensitization by skin contact.
· ***Classification system***
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.
· ***NFPA ratings for USA (scale 0-4)***

SECTION 4. *First aid measures*

After skin contact *Immediately wash with water and soap and rinse thoroughly.*
After eye contact *Rinse opened eye for several minutes under running water.*
After swallowing *Induce vomiting and seek advice of physician.*

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SECTION 5. Fire fighting measures

Suitable extinguishing agents
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· ***Special hazards caused by the material, its products of combustion or resulting gases:*** *Formation of toxic gases is possible during heating or in case of fire.*
· ***Protective equipment:*** *No special measures required.*

SECTION 6. Accidental release measures

· ***Person-related safety precautions:*** *Not required.*
· ***Measures for environmental protection:*** *No special measures required.*
· ***Measures for cleaning/collecting:*** *Pick up mechanically.*
· ***Additional information:*** *No dangerous substances are released.*

SECTION 7. Handling and storage

· ***Handling***
· ***Information for safe handling:*** *No special measures required.*
· ***Information about protection against explosions and fires:*** *No special measures required.*
· ***Storage***
· ***Requirements to be met by storerooms and receptacles:*** *No special requirements.*
· ***Information about storage in one common storage facility:*** *Not required.*
· ***Further information about storage conditions:*** *Keep cool, if possible (not above 25 °C).*
· ***Storage class***
· ***Class according to regulation on flammable liquids:*** *Void*

SECTION 8. Exposure controls and personal protection

· ***Additional information about design of technical systems:*** *No further data; see item 7.*
· ***Components with limit values that require monitoring at the workplace:***
94-36-0 dibenzoyl peroxide
TLV 5 mg/m³
· ***Additional information:*** *The lists that were valid during the creation were used as basis.*
· ***Personal protective equipment***
· ***General protective and hygienic measures***
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
· ***Breathing equipment:*** *Not required.*
· ***Protection of hands:***
If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· ***For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:***

Butyl rubber, BR
Fluorocarbon rubber (Viton)
Nitrile rubber, NBR
Natural rubber, NR
Chloroprene rubber, CR

· ***For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:***

PVC or PE gloves

· ***Eye protection:*** *Not absolutely necessary.*
· ***Body protection:*** *Light weight protective clothing*

SECTION 9. *Physical and chemical properties:*

· ***General Information***
· ***Form:*** *Powder*
· ***Color:*** *Colorless*
· ***Odor:*** *Odorless*
· ***Change in condition***
· ***Melting point/Melting range:*** *undetermined*
· ***Boiling point/Boiling range:*** *undetermined*
· ***Flash point:*** *Not applicable*
· ***Auto igniting:*** *Product is not selfigniting.*
· ***Danger of explosion:*** *Product does not present an explosion hazard.*
· ***Density at 20°C:*** *2.650 g/cm³*
· ***Bulk density at 20°C:*** *900 kg/m3*
· ***Solubility in / Miscibility with***
· ***Water:*** *Insoluble*
· ***Solvent content:***
· ***Organic solvents:*** *0.0 %*
· ***Water:*** *0.1 %*
· ***Solids content:*** *100.0 %*

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SECTION 10. *Stability and reactivity*

· ***Dangerous reactions*** *No dangerous reactions known*
· ***Dangerous products of decomposition:*** *none*

SECTION 11. *Toxicological information*

· ***Acute toxicity:***
· ***Primary irritant effect:***
· ***on the skin:*** *No irritant effect.*
· ***on the eye:*** *No irritating effect.*
· ***Sensitization:*** *Sensitization possible through skin contact.*
· ***Additional toxicological information:***
Irritant
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:

SECTION 12. *Ecological information:*

· ***General notes:*** *Generally not hazardous for water.*

SECTION 13. *Disposal considerations*

· ***Product:***
· ***Recommendation***
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Small quantities can be polymerized with the matching system component(s) and the cured solid material can be disposed of with the regular garbage. Larger quantities must be disposed of following the regulations of the local authorities.
· ***Uncleaned packagings:***
· ***Recommendation:*** *Packaging can be reused or recycled after cleaning.*
· ***DOT regulations:***
· ***Hazard class:*** *-*
· ***Land transport ADR/RID (cross-border)***
· ***ADR/RID class:*** *-*
· ***Maritime transport IMDG:***
· ***IMDG Class:*** *-*
· ***Marine pollutant:*** *No*
· ***Air transport ICAO-TI and IATA-DGR:***
· ***ICAO/IATA Class:*** *-*

SECTION 15. *Regulations*

· ***SARA Section 355 (extremely hazardous substances)***
None of the ingredients is listed.
· ***SARA Section 313 (specific toxic chemical listings)***
94-36-0 dibenzoyl peroxide
· ***TSCA (Toxic Substances Control Act)***
94-36-0 dibenzoyl peroxide

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84-61-7 dicyclohexyl phthalate
7732-18-5 water, distilled, conductivity or of similar purity
· ***Prop 65 - Chemicals known to cause cancer***
None of the ingredients is listed.
· ***Prop 65 - Chemicals known to cause reproductive toxicity***
None of the ingredients is listed.
· ***Cancerogenity categories***
· ***EPA (Environmental Protection Agency)***
None of the ingredients is listed.
· ***IARC (International Agency for Research on Cancer)***
94-36-0 dibenzoyl peroxide 3
· ***NTP (National Toxicology Program)***
None of the ingredients is listed.
· ***TLV (Threshold Limit Value established by ACGIH)***
94-36-0 dibenzoyl peroxide A4
· ***MAK (German Maximum Workplace Concentration)***
None of the ingredients is listed.
· ***NIOSH-Ca (National Institute for Occupational Safety and Health)***
None of the ingredients is listed.
· ***OSHA-Ca (Occupational Safety & Health Administration)***
None of the ingredients is listed.
· ***Markings according to EU guidelines:***
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials
· ***Code letter and hazard designation of product:***
Xi Irritant
· ***Hazard-determining components of labelling:***
dibenzoyl peroxide
· ***Risk phrases:***
43 May cause sensitization by skin contact.
· ***Safety phrases:***
24 Avoid contact with skin.
37 Wear suitable gloves.
60 This material and its container must be disposed of as hazardous waste.
· ***National regulations***
· ***Classification according to VbF:*** *Void*
· ***Technical instructions (air):***
Class Share in %
II 0-5
· **Water hazard class:** Generally not hazardous for water.

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SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **technovit 4000 Syrup 1**

SECTION 2. *Composition/Data on components:*

Dangerous components:

100-42-5 styrene	*\Xn; R 10-20-36/38*	*25-50%*
80-62-6 methyl methacrylate	*Xi, **F;** R 11-37/38-43*	*0-5%*

SECTION 3. *Hazards identification*

Information pertaining to particular dangers for man and environment
The product has to be labelled due to the calculation procedure of the "General Classification
guideline for preparations of the EU" in the latest valid version.
R 10 Flammable.
R 20 Harmful by inhalation.
R 36/38 Irritating to eyes and skin.
R 43 May cause sensitization by skin contact.
Classification system
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.
NFPA ratings for USA (scale 0-4)

SECTION 4. *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 Immediately wash with water and soap and rinse thoroughly.
After eye contact
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor. ■ After swallowing Induce vomiting and seek advice of physician.

SECTION 5. *Fire fighting measures*

Suitable extinguishing agents
C02, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. C02, sand, extinguishing powder. Do not use water. For safety reasons unsuitable extinguishing agents Water. Water with full jet. Special hazards caused by the material, its products of combustion or resulting gases: Formation of toxic gases is possible during heating or in case of fire. Protective equipment: Mount respiratory protective device.

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SECTION 6. Accidental release measures

■ *Person-related safety precautions: Wear protective equipment. Keep unprotected persons away. Measures for environmental protection:*
Prevent seepage into sewage system, workpits and cellars. Measures for cleaning/collecting:
Absorb with liquid binding material (diatomite, universal binders, for small amounts tissues). Dispose contaminated material as waste according to item 13. Do not flush with water or aqueous cleansing agents Additional information: No dangerous substances are released.

SECTION 7. Handling and storage

Handling
Information for safe handling:.
Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Information about protection against explosions and fires:
Keep ignition sources away - Do not smoke. Protect against electrostatic charges.
Storage
Requirements to be met by storerooms and receptacles: Store in a cool location.
Information about storage in one common storage facility: Not required. Further information about storage conditions:
Keep cool, if possible (not above 25 °C).
Store in cool, dry conditions in well sealed receptacles.
Storage class
■ Class according to regulation on flammable liquids: A I

SECTION 8. Exposure controls and personal protection

Additional information about design of technical systems: No further data; see item 7.
Components with limit values that require monitoring at the workplace:
100-42-5styrene . ~
TLV Short-term value: 852 mg/m3, 200 ppm Long-term value: 213 mg/m3, 50 ppm
80-62-6 methyl methacrylate ' r~
TLV 410 mg/m3, TOO ppm ' ~
• Additional information: The lists that were valid during the creation were used as basis.
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. Avoid contact with the eyes and skin. Breathing equipment:
Not necessary with efficient local exhaust. If exposition to vapours is possible, use breathing ■ protective mask (fitter A). Protection of hands:
If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization. Solvent resistant gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Material of gloves

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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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:
Wear protective gloves based on polyvinyl alcohole. .
For the permanent contact of a maximum Of 15 minutes gloves made of the following materials are suitable:
Butyl rubber, BR Fluorocarbon rubber (Viton) Nitrite rubber, NBR Chloroprene rubber, CR

SECTION 9. *Physical and chemical properties:*

General Information

Form:	*Fluid*
Color:	*Colorless*
Odor:	*Characteristic*

■ ***Change in condition***
Melting point/Melting range:
undetermined ***Boiling point/Boiling range:*** *100°C*

Flash point:	*10°C*
■ ***Ignition temperature:***	*430°C*
Auto igniting: .	*Product is not selfigniting.*
■ ***Danger of explosion:***	*Product is not explosive. However, formation of explosive air/vapor mixtures are possible.*
Explosion limits: ■ Lower: Upper:	*1.2 Vol%* *12.5 Vol%*
Vapor pressure at 20°C:	*47hPa*
Density at 20"C:	*1 g/cm³*
Solubility in 1 Miscibility with Water:	*Not miscible or difficult to mix*
Viscosity: kinematic at 20"C:	*60 s (DIN 53211/4)*
■ ***Solvent content:***	*45.0 %*
■ ***Organic solvents:***	
Solids content:	*55.0 %*

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SECTION 10. *Stability and reactivity*

■ *Dangerous reactions No dangerous reactions known Dangerous products of decomposition: none Additional information:*
Product might polymerize after considerable exceeding of recommended storage time or temperature. .

SECTION 11. *Toxicological information*

· ***Primary irritant effect:***
on the skin: Irritant to skin and mucous membranes.
■ ***on the eye: Irritating effect.***
■ ***Sensitization: Sensitization possible through skin contact.***
Additional toxicological information:
Harmful
Irritant
The product shdws the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

SECTION 12. *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.

SECTION 13. *Disposal considerations*

Product:
Recommendation
Must not be disposed of together with household garbage. Do not allow product to reach sewage . system.
Small quantities can be polymerized with the matching system component(s) and the cured solid material can be disposed of with the regular garbage. Larger quantities must be disposed of following the regulations of the local authorities.
Uncleaned packagings: ■ ***Recommendation:*** *Disposal must be made according to official regulations.*
DOT ***regulations:***

SECTION 15. DOT *Regulations*

Hazard class: 3
Identification number: . UN1866
Packing group: III
Proper shipping name (technical name): RESIN SOLUTION
Label 394-36-0 dibenzoyl peroxide

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84-61-7 dicyclohexyl phthalate
7732-18-5 water, distilled, conductivity or of similar purity
· ***Prop 65 - Chemicals known to cause cancer***
None of the ingredients is listed.
· ***Prop 65 - Chemicals known to cause reproductive toxicity***
None of the ingredients is listed.
· ***Cancerogenity categories***
· ***EPA (Environmental Protection Agency)***
None of the ingredients is listed.
· ***IARC (International Agency for Research on Cancer)***
94-36-0 dibenzoyl peroxide 3
· ***NTP (National Toxicology Program)***
None of the ingredients is listed.
· ***TLV (Threshold Limit Value established by ACGIH)***
94-36-0 dibenzoyl peroxide A4
· ***MAK (German Maximum Workplace Concentration)***
None of the ingredients is listed.
· ***NIOSH-Ca (National Institute for Occupational Safety and Health)***
None of the ingredients is listed.
· ***OSHA-Ca (Occupational Safety & Health Administration)***
None of the ingredients is listed.
· ***Markings according to EU guidelines:***
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials
· ***Code letter and hazard designation of product:***
Xi Irritant
· ***Hazard-determining components of labelling:***
dibenzoyl peroxide
· ***Risk phrases:***
43 May cause sensitization by skin contact.
· ***Safety phrases:***
24 Avoid contact with skin.
37 Wear suitable gloves.
60 This material and its container must be disposed of as hazardous waste.
· ***National regulations***
· ***Classification according to VbF:*** *Void*
· ***Technical instructions (air):***
Class Share in %
II 0-5
· **Water hazard class:** Generally not hazardous for water.