BETOCHEM 332 (Component A)

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1. Product identifier

Trade name/designation:

BETOCHEM 332 (Component A)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture:
injection resin of low viscosity as binder

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Deys Betontechniek Nederland BV
Gelreweg 5
3840AH Harderwijk
NETHERLANDS
Telephone: 0031341415148
E-mail: info@deys.nl
Website: www.deys.nl

1.4. Emergency telephone number

+31 (0) 30 / 274 88 88

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification proc edure
Skin corrosion/irritation *(Skin Irrit. 2)*	H315: Causes skin irritation.	
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	
STOT-single exposure *(STOT SE 3)*	H335: May cause respiratory irritation.	
Acute toxicity (oral) *(Acute Tox. 4)*	H302: Harmful if swallowed.	
Acute toxicity (dermal) *(Acute Tox. 4)*	H312: Harmful in contact with skin.	

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:

GHS07
Exclamation mark

Signal word: Warning

Hazard components for labelling:
poly urethane methacrylate; 2-hydroxyethyl methacrylate

hazard statements for health hazards	
H302 + H312	Harmful if swallowed or in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Precautionary statements Prevention	
P280	Wear protective gloves/protective clothing and eye/face protection.

BETOCHEM 332 (Component A)

Precautionary statements Response	
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.

2.3. Other hazards

Other adverse effects:
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concen-tration
EC No.: 000-555-0	**poly urethane methacrylate** Acute Tox. 4, Eye Irrit. 2, STOT SE 3, Skin Irrit. 2 **Warning** H302 + H312-H315-H319-H335	30 – 70 Wt %
CAS No.: 868-77-9 **EC No.:** 212-782-2 **REACH No.:** 01-2119490169-29-XXXX	**2-hydroxyethyl methacrylate** Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1 **Warning** H315-H317-H319	< 40 Wt %

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
Take off contaminated clothing and wash it before reuse.

Following inhalation:
Remove casualty to fresh air. Call a doctor if you feel unwell.

In case of skin contact:
Wash with water and soap. If skin irritation continues, consult a doctor.

After eye contact:
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

After ingestion:
Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Aspiration hazard. Call a physician immediately.

Self-protection of the first aider:
First aider: Pay attention to self-protection!

4.2. Most important symptoms and effects, both acute and delayed

Redness of skin and eyes. Allergic reactions.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet, alcohol resistant foam, Extinguishing powder, Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Nicht feuergefährlich, aber brennbar. Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating.

Hazardous combustion products:
Development of hazardous combustion gases or vapours possible in the event of fire.
In case of fire may be liberated: Carbon monoxide Carbon dioxide. Nitrogen oxides (NOx).

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

BETOCHEM 332 (Component A)

5.4. Additional information

Cool endangered containers with water spray. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Use personal protection equipment. Keep away unprotected persons. Provide adequate ventilation. Avoid contact with eyes and skin. Do not breathe vapour/aerosol.

6.1.2. For emergency responders

No data available

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

For cleaning up:

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Other information:

Provide adequate ventilation.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

6.5. Additional information

Treat the recovered material as prescribed in the section on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

Keep container tightly closed. Ensure good ventilation/exhaustion at the workplace. Avoid contact with eyes and skin. May cause sensitisation especially in sensitive humans. Provide washing facilities in the work area. Take care to keep workplace clean. Avoid splashing. Do not leave containers open.

Advices on general occupational hygiene

Handle in accordance with good industrial hygiene and safety practice.. When using do not eat, drink or smoke. Avoid contact with eyes and skin. Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. Take off contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Packaging materials:

Refined steel, high density polyethylene (HDPE), polypropylene (PP), Polytetrafluoroethylene (PTFE)

Requirements for storage rooms and vessels:

Keep container tightly closed. Store in a well-ventilated place. Protect from sunlight. Keep preferably in the original container.

Hints on storage assembly:

Do not store together with: Food and feedingstuffsn

Storage class: 10 – Combustible liquids that cannot be assigned to any of the above storage classes

Further information on storage conditions:

Recommended storage temperature: 5 - 25 °C
Ensure entry of atmospheric oxygen because oxygen is a part of the inhibitor system.
Keep locked up and out of reach of children.

7.3. Specific end use(s)

Recommendation:

Observe technical data sheet.

BETOCHEM 332 (Component A)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

No data available

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
2-hydroxyethyl methacrylate CAS No.: 868-77-9	4.9 mg/m³	① DNEL worker ② DNEL long-term inhalative (systemic)
2-hydroxyethyl methacrylate CAS No.: 868-77-9	2.9 mg/m³	① DNEL Consumer ② DNEL long-term inhalative (systemic)
2-hydroxyethyl methacrylate CAS No.: 868-77-9	1.3 mg/kg bw/day	① DNEL worker ② DNEL long-term dermal (systemic)
2-hydroxyethyl methacrylate CAS No.: 868-77-9	0.83 mg/kg bw/day	① DNEL Consumer ② DNEL long-term dermal (systemic)
2-hydroxyethyl methacrylate CAS No.: 868-77-9	0.83 mg/kg bw/day	① DNEL Consumer ② DNEL long-term oral (repeated)

Substance name	PNEC Value	① PNEC type
2-hydroxyethyl methacrylate CAS No.: 868-77-9	0.482 mg/l	① PNEC aquatic, freshwater
2-hydroxyethyl methacrylate CAS No.: 868-77-9	0.482 mg/l	① PNEC aquatic, marine water
2-hydroxyethyl methacrylate CAS No.: 868-77-9	1 mg/l	① PNEC aquatic, intermittent release
2-hydroxyethyl methacrylate CAS No.: 868-77-9	10 mg/l	① PNEC sewage treatment plant (STP)
2-hydroxyethyl methacrylate CAS No.: 868-77-9	3.79 mg/kg	① PNEC sediment, freshwater
2-hydroxyethyl methacrylate CAS No.: 868-77-9	3.79 mg/kg	① PNEC sediment, marine water

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide eyewash stations. Provide eyewash station and safety shower. Provide adequate ventilation.

8.2.2. Personal protection equipment

Eye/face protection:

Eye glasses with side protection.

Skin protection:

Wear protective gloves.
Suitable material: CR (polychloroprene, chloroprene rubber)
Thickness of the glove material: 0,65 mm
Breakthrough time (maximum wearing time): 480 min

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
Check leak tightness/impermeability prior to use. Protective gloves shall be replaced immediately when physically damaged or worn. In the case of wanting to use the gloves again, clean them before taking off and air them well.
When wearing protective gloves, cotton glove liners are recommended.

Respiratory protection:

Usually no personal respirative protection necessary.
Respiratory protection necessary at: when vapours/aerosols are generated.
Recommended filter type: filter A-(P2)

BETOCHEM 332 (Component A)

Other protection measures:
Wear suitable protective clothing. Preventive skin protection is recommended.

8.2.3. Environmental exposure controls
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance
Physical state: Liquid
Colour: yellow, brown
Odour: characteristic

Safety relevant basis data

parameter		at °C	Method	Remark
pH	6 – 8			
Melting point	> -30 °C			
Freezing point	*not determined*			
Initial boiling point and boiling range	> 70 °C			
Decomposition temperature	> 230 °C			
Flash point	> 100 °C		DIN 51758	
Evaporation rate	*not determined*			
Auto-ignition temperature	*not determined*			
Upper/lower flammability or explosive limits	*not determined*			
Vapour pressure	*not determined*			
Vapour density	*not determined*			
Density	1.15 – 1.2 g/ml	20 °C		
Bulk density	*not determined*			
Water solubility	miscible			
Partition coefficient: n-octanol/ water	0.47			literature value 2-hydroxyethyl methacrylate
Dynamic viscosity	*not determined*			
Kinematic viscosity	*not determined*			

9.2. Other information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
Forms explosive mixtures with air on intense heating.

10.2. Chemical stability
The product is chemically stable under recommended conditions of storage, use and temperature.
sensitivity to light.

10.3. Possibility of hazardous reactions
Polymerisation.
Violent reaction with: Amines, Peroxides, strong oxidant, acids

10.4. Conditions to avoid
Protect from heat and direct sunlight.

10.5. Incompatible materials
Iron. Zinc. Copper, bronze, brass and others Copper alloys, free radical initiators

10.6. Hazardous decomposition products
No hazardous decomposition products if used and stored according to specifications.

Further information
While mixing the components reaction heat is generated.

BETOCHEM 332 (Component A)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
868-77-9	2-hydroxyethyl methacrylate	**LD_{50} oral:** 5,564 mg/kg (Ratte) **LD_{50} dermal:** >3,000 mg/kg (Kaninchen)

Acute oral toxicity:
Harmful if swallowed.

Acute dermal toxicity:
Harmful in contact with skin.

Skin corrosion/irritation:
Causes skin irritation.

Serious eye damage/irritation:
Causes serious eye irritation.

Respiratory or skin sensitisation:
May cause an allergic skin reaction.

STOT-single exposure:
May cause respiratory irritation.

Additional information:
CoRAP: CAS No. 868-77-9: suspicion of: CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction), Sensitizer.

SECTION 12: Ecological information

12.1. Toxicity

CAS No.	Substance name	Toxicological information
868-77-9	2-hydroxyethyl methacrylate	**EC_{50}:** 345 mg/l 3 d (Selenastrum capricornutum) **EC_{50}:** >3,000 mg/l (Pseudomonas fluorescens) 16 h, Bakterientoxizität **EC_{50}:** 380 mg/l 2 d (Daphnia magna) **LC_{50}:** 100 mg/l 4 d (Oryzias latipes)

12.2. Persistence and degradability

CAS No.	Substance name	Biodegradation	Remark
868-77-9	2-hydroxyethyl methacrylate	Yes, rapidly	

Biodegradation:
2-hydroxyethyl methacrylate: Readily biodegradable.

12.3. Bioaccumulative potential

CAS No.	Substance name	Log K_{OW}	Bioconcentration factor (BCF)
868-77-9	2-hydroxyethyl methacrylate	0.42	

Partition coefficient: n-octanol/water:
0.47; Remark: literature value 2-hydroxyethyl methacrylate

Accumulation / Evaluation:
Bioaccumulation is not expected.

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
	poly urethane methacrylate	—

The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects
No data available

BETOCHEM 332 (Component A)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose of waste according to applicable legislation.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product:

08 04 09 *	Waste adhesives and sealants containing organic solvents or other dangerous substances
07 02 08 *	other still bottoms and reaction residues

*: Evidence for disposal must be provided.

Remark:

Unhardened product residues are special waste.

Cured product residues are no hazardous waste.
Mix not usable components in the prescribed ratio and allowed to cure.
Dispose of hardened product residues as household-type industrial waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.
The waste code numbers mentioned are recommendations based on the probable use of the product. Due to specific use and disposal circumstances at the user other waste codes may be suitable.

Waste code packaging:

15 01 10 *	packaging containing residues of or contaminated by dangerous substances

*: Evidence for disposal must be provided.

Waste treatment options

Appropriate disposal / Package:

Packing which cannot be properly cleaned must be disposed of.
Completely emptied packagings can be given for recycling.

Other disposal recommendations:

Consult the appropriate local waste disposal expert about waste disposal.

13.2. Additional information

Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

Land transport (ADR/ RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN-No.			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es)			
not relevant			
14.4. Packing group			
not relevant			
14.5. Environmental hazards			
not relevant			
14.6. Special precautions for user			
not relevant			

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not relevant

BETOCHEM 332 (Component A)

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

No data available

15.2. Chemical Safety Assessment

For this mixture a chemical safety assessment was not carried out.

SECTION 16: Other information

16.1. Indication of changes

No data available

16.2. Abbreviations and acronyms

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
AOX: Adsorbable organic halogen compounds
ATE: Acute Toxicity Estimates
CMR: carcinogenic, mutagenic, toxic for reproduction
DMEL: Derived Minimal Effect Level
DNEL: Derived No-Effect Level
EC: Effective concentration
ECHA: European Chemicals Agency
EWC: European Waste-Catalogue
IATA-DGR: International Air Transport Association - Dangerous Goods Regulations
ICAO-TI: International Civil Aviation Organisation - Technical instructions
IMDG: International Maritime Dangerous Goods Code
LC: Lethal concentration
LD: Lethal dose
MARPOL: International Convention for the Prevention of Pollution From Ships
PBT: Persistent, bioaccumulative, toxic
PNEC: Predicted No-Effect Concentration
PNEL: Predicted No-Effect Level
RID: International Rule for Transport of Dangerous Substances by Railway
SVHC: Substance of very high concern
VOC: Volatile Organic Compounds
vPvB: very persistent and very bioaccumulative
VwVwS: Verwaltungsvorschrift wassergefährdende Stoffe
WGK: water hazard class
CoRAP: Community Rolling Action Plan

16.3. Key literature references and sources for data

Safety data sheets of raw material suppliers.
BAM: Datenbank GEFAHRGUT der Bundesanstalt für Materialforschung und -prüfung
eChemPortal: The Global Portal to Information on Chemical Substances
GESTIS: Stoffdatenbank des Instituts für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA)
GisBAU: Gefahrstoffinformationssystem der Berufsgenossenschaft Bau
GisChem: Gefahrstoffinformationssystem der Berufsgenossenschaft Chemie
GSBL: Gemeinsamer Stoffdatenpool Bund / Länder

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Skin corrosion/irritation *(Skin Irrit. 2)*	H315: Causes skin irritation.	
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	
STOT-single exposure *(STOT SE 3)*	H335: May cause respiratory irritation.	
Acute toxicity (oral) *(Acute Tox. 4)*	H302: Harmful if swallowed.	
Acute toxicity (dermal) *(Acute Tox. 4)*	H312: Harmful in contact with skin.	

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H302 + H312	Harmful if swallowed or in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

16.6. Training advice

No data available

16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.