1. Information on the finished product

- **Product designation:**
  EJOT H3 (anchor sleeve)

- **Provider of information:**
  EJOT Baubefestigungen GmbH, In der Stockwiese 35, 57334 Bad Laasphe, Germany
  Tel.: +49/2752/908-0, Fax: +49/2752/908-731

2. Information on the raw material

- **Designation of the plastic:**
  High-density polyethylene (HDPE)
- **Application:**
  Thermoplastic polymers for the manufacture of injection moulding products

3. Possible hazards

- **Special hazard information for human beings and the environment:**
  The melted product adheres to the skin and causes burns.
  Risk of slipping on spilled material.
  If used improperly it has neither an acute nor a chronic detrimental effect on the health of human beings.
  If swallowed in small quantities it should not cause problems.
  Inhalation of its dust will cause irritation to the respiratory passages.
  Has no damaging effects on the environment, in the environment a foreign substance with a very slow biodegradability, decomposes when exposed to UV radiation. Water soluble.

- **Other specifications:**
  The substance is combustible and highly flammable. When burning hazardous (carbon monoxide) and irritant substances may be released. Explosive in dust form. When the dust concentration in the air exceed the lower explosion limit, there is a risk of explosion. The product can be electrostatically charged.

- **Classification system:**
  As per EC directives 1999/45, 67/548,76/769 and the following amendments this product is not classified as dangerous.

- **Other risks:**
  Not indicated

4. First aid measures

- **General information:**
  At room temperature the product is not irritant and does not release any dangerous vapours.
  The measures indicated below relate to critical situations (fire, incorrect process conditions).
- **In case of inhalation:**
  In case of excessive inhalation of smoke, take the affected party out into the fresh air. Seek medical attention.
- **In case of skin contact:**
  In case of contact with the melted product, immediately cool off with cold water.
  Do not peel off hardened product from the skin.
  Consult a doctor immediately.
- **In case of contact with the eyes:** Rinse out the eyes with the lid opened for several minutes under running water.
- **If swallowed:**
  No special measures required if the product is swallowed as such.
  In a larger amount is swallowed, seek medical attention.

5. Measures for fire fighting

- **Suitable extinguishing agent:**
  Water mist, foam, chemical extinguishing powder
  In case of a large fire -> spray water
- **Unsuitable extinguishing agent for safety reasons:** Full jet water.
- **Specific hazard from the substance, its combustion products or generated gases:**
  In case of fire the following may be released:
  Water (H2O), carbon dioxide (CO2) and carbon monoxide (CO) with lack of oxygen (O2)
  The combustion products are hazardous.
- **Specific risk of explosion:**
  In transport systems (e.g. when filling or emptying silos, tanks, funnels) dust particles may be produced. When larger quantities of these dust particles accumulate they may induce static charges which can cause ignition and explosion. These system parts must therefore be equipped with a suitable discharge function for static charge.
- **Special safety clothing and equipment:**
  Use a mask with a universal filter.
  Use self-contained respiratory protection in closed rooms.
- **Further information, heat value:** < 9994 kcal/kg
- **Further information:** In case of a large fire the humans beings, warehouse and all other objects in the vicinity of the fire must be protected by a water curtain.

6. Measures in case of unintentional release

- **Personnel-related precautionary measures:**
  Specific risk of slipping as a result of expelled/spilled product.
  Leave the location in which the polymer dust has been swirled up in order to avoid inhalation. Avoid eye and skin contact with the melted polymer.
  See point 8
- **Environmental protection measures:**
  Do not allow the spilled material to enter into the sewerage system. No special measures required.
  See points 12 and 13
- **Procedure for cleaning/absorption/collection:**
  Re-use the product or dispose of it safely. See point 13

7. Handling and storage

- **Handling:**
  Adhere to all fire safety measures (work with open flame prohibited, avoidance of possible ignition sources, no smoking). Avoid generating dust and static charge. When handling, avoid release into the environment.
- **Instructions on safe handling:**
  No special measures required if handling at room temperature.
  Avoid scattering the product to prevent falling hazard.
  When the material is heated to working temperature, vapours may develop which consist of:
  Ethylene and alkenes with a high molecular weight.
  Traces of formaldehyde and acrolein
  Traces of acids (formic acid, acetic acid)
  In such processing conditions it is advisable to provide an appropriate ventilation system.
  Take precautionary measures to counter risks of explosion from dust whilst conveying or grinding the grains, as for all types of polymer.
- **Storage:**
  The storage facilities must meet the structural requirements for safety. Electrical systems must meet the valid regulations.
  Store well ventilated and covered. Recommended storage temperature: from -20 °C to +40 °C. The product must be kept at a distance of at least 1m from the heat sources.

- **Requirement for storage rooms and containers:**
  Take precautionary measures to prevent static charge.
  Do not smoke.
  Earth devices.
  The use of naked flames is prohibited.
- **Instructions for joint storage:** Not required
- **Further information on storage conditions:**

8. Explosion limitation and personal safety clothing and equipment

- **Additional instructions for the design of technical systems:** No further information, see point 7.
- **Components with limit values related to the work station which require monitoring:** N/A

- **Additional explosion limit values for possible processing methods:**

107-02-8 Acrylic aldehyde	
AGW	0.25 mg/m³, 0.1 ml/m³ AGS, H
50-00-0 Formaldehyde	
MAK MAK (TRGS 900) TRK	0.37 mg/m³, 0.3 ml/m³ 0.62 mg/m³, 0.5 ml/m³ Y,H; DFG 0.6 mg/m³, 0.5 ml/m³
64-19-7 Acetic acid	
MAK MAK (TRGS 900)	see also section IIb 25 mg/m³, 10 ml/m³ DFG, EU
64-18-6 Formic acid	
AGW	9.5 mg/m³, 5 ml/m³ 2(I);DFG, EU, Y

- **Personal safety clothing and equipment:**
- **General safety and hygiene measures:** Do not, eat, drink, smoke or sniff tobacco whilst working.
- **Eye protection:** Safety goggles or safety glasses
- **Respiratory protection:** Respiratory protection in case of insufficient ventilation. Respirator
- **Skin protection:** Work clothing
- **Hand protection:** Gloves / heat-resistant
- **Glove material**
  The selection of a suitable glove does not just depend on the material but also on further quality properties and is different from manufacturer to manufacturer.
  E.g. protective gloves made of a blended woven steam-grade aramid/carbon fabric with minimum heat insulation of up to 270 °C + leather cuff for forearm protection
  As an example, five-fingered gloves by KCL, "Karbo TECT" model with leather cuff, heat insulation up to 350 °C.
- **Penetration time of the glove material**
  The exact breakthrough time must be obtained form the glove manufacturer and adhered to.
- **Foot protection:** Closed work shoes with anti-slip treatment

9. Physical and chemical properties

General information	
Shape: **Colour:** **Smell:**	Granulate, at 20 °C: Solid substance Base colour off-white, different colourings possible Almost odourless, typically smells of paraffin
Condition change **Melting point/melting range:** **Boiling point/boiling range:**	 50-145°C Not applicable
Granulate flash point temperature:	Not applicable (see attachment Directive 92/69/EEC, A.9), 380-390°C
Granulate ignition temperature:	> 350°C
Ignition temperature of deposited polymer dust	350°C
Ignition temperature of swirled-up polymer dust	445°C
Minimum initialisation energy of ignition /J/	1.6
Calorific value / MJ.kg-1/	46-47
Risk of explosion:	The product is not potentially explosive. However, see point(s) 7.
Density at 20 °C:	0.9-0.97 g/cm³
Bulk density (granulate), /kg.m-3/	500-550
Solubility in / miscibility with Water:	 Insoluble
Important information relating to health, safety and the environment	
pH value:	Not defined
Boiling point /°C/:	Not indicated
Flammability class:	C3 – highly flammable
Lower explosion limit (dust) / g.m-3/:	100
Oxidation properties:	Not indicated
Vapour pressure at 20 °C:	Not indicated
Density at 23°C /kg.m-3/:	934-964

10. Stability and reactivity

- **Thermal decomposition / conditions which must be avoided:**
  The product is stable under normal handling and storage conditions.
  It decomposes at over 360 °C.
  Ignition sources and static charge should be avoided.
- **Hazardous reactions:** No know hazardous reactions.
- **Hazardous decomposition products:** At room temperature no hazardous decomposition products are known.
  At high temperatures in the presence of air or oxygen CO, CO2 and H2O are released upon decomposition.
- **Substances and materials which must be avoided:** Chlorine, fluorine, strong oxidising agents, aromatic and chlorinated hydrocarbons, benzene and lubricating oils

11. Toxicology information

- **Acute toxicity for animals:** LD50 oral – rat>3 000 mg.kg-1
- **Primary irritation:**
- **to the skin:** No irritation
- **to the eye:** No irritation
- **Sensitisation:** No sensitisation effect known
- **Additional toxicological information:** In our experience and according to the information available to use, if handled properly and used in accordance with the proper use, the product has no adverse effect on health.

12. Ecology information

- **Ecotoxicity:** Not determined
- **Information on elimination (persistence and degradability):**
- **Reaction in environment compartments:**
- **Mobility and bioaccumulation potential:** Floats on water
  There is no significant bioaccumulation.
- **Stability and degradability:** The substance has no damaging effect on the environment, in nature as a foreign substance with a very slow biological degradability, decomposes when exposed to UV radiation. Insoluble in water
- **General information:** The product is not toxic, however small particles may have a physical effect on aquatic and terrestrial organisms.
- **Results of PBT assessment:** Not determined
- **Other negative effects:** The product is not considered damaging or hazardous.

13. Instructions for disposal

- **Product:**
- **Recommendation:**
  For recycling requirements contact waste exchanges.
  For recycling requirements contact the manufacturer.
  Can be re-used after treatment.
  Taking into account the necessary technical regulations and after consultation with the disposing party and the respective authority, can be deposited with the domestic waste.
  Small quantities can be dumped together with the domestic waste.
  Can be re-used without treatment.
- **European Waste Catalogue (EAK, EWC, CED)**
  070213 Plastic waste (from MFSU of plastics)
  120105 Plastic chippings (from shaping + surface treatment)
  160119 Plastic (from used vehicles)
  200139 Plastics (separately collected fraction of municipal waste)
  Possibly also 191204, 170203, 020104
  The exact number must be determined.
- **Non-cleaned packaging:** See recommendation
- **Recommendation:**
  The packaging can be re-used after cleaning or utilised as a material.
- **Recommended cleaning agent:** Water, with cleaning agent additive as necessary.

14. Information on transportation

- **Transportation/further information:**
  In accordance with the national and international regulations which relate to road, rail, air and see transport, the product is not hazardous.

15. Legal regulations

- **Regulations on safety, health and environmental protection/specific legal regulations for the substance or the mixture**
  Water pollutant class (Annex 1 of VwVwS (Germany)): Not water-polluting.
- **Substance safety assessment**
  Substance safety assessment not required
  Product is not classified as hazardous.
  A safety data sheet for this product is not required by law and is only issued by us as a courtesy for our customer.

1. Information on the finished product

- **Product designation:**
  EJOT H3 (nail)

- **Provider of information:**
  EJOT Baubefestigungen GmbH, In der Stockwiese 35, 57334 Bad Laasphe, Germany
  Tel.: +49/2752/908-0, Fax: +49/2752/908-731

2. Information on the raw material

- **Designation of the plastic:**
  Glass fibre reinforced polyamide
- **Application:**
  Thermoplastic / polymer material in the form of cylindrical granulate for injection moulding applications.

3. Possible hazards

- **Hazard designation:** N/A.
- **Special hazard information for human beings and the environment:** N/A.
- **Additional information:** None

4. First aid measures

- **General information:** No special measures required.
- **In case of inhalation:** Provide medical treatment in case of discomfort.
- **In case of skin contact:** In case of contact with the melted product, immediately cool off with cold water.
  Do not peel off hardened product from the skin.
- **In case of contact with the eyes:** Rinse out the eyes with the lid opened for several minutes under running water.

5. Measures for fire fighting

- **Suitable extinguishing agent:**
  Fire extinguishing measures must be implemented to suit the environment.
  Water, water spray jet, water with gel additive, foam.
- **Specific hazard from the substance, its combustion products or generated gases:**
  Under certain fire conditions, traces of toxic substances cannot be ruled out, e.g.:
  Carbon monoxide (CO)
  Nitric oxide (NOx)
  Hydrogen cyanide (HCN)
- **Special safety clothing and equipment:** No special measures required.
- **Further information**
  Residue from fire and contaminated extinguishing water must be disposed of as per the regulations of the respective authorities.

6. Measures in case of unintentional release

- **Personnel-related precautionary measures:**
  Not required.
  Specific risk of slipping as a result of spilled product.
- **Environmental protection measures:** No special measures required.
- **Procedure for cleaning/absorption/collection:** Allow to set, collect mechanically.
- **Additional instructions:** No hazardous substances are released.

7. Handling and storage

- **Handling:**
- **Instructions on safe handling:**
  No special measures required.
  Provide suitable extraction at processing machines.
- **Information on fire safety and explosion protection:** No special measures required.

- **Storage:**
- **Requirement for storage rooms and containers:** No special requirements.
- **Instructions for joint storage:** Not required.
- **Further information on storage conditions:** None.

8. Explosion limitation and personal safety clothing and equipment

- **Additional instructions for the design of technical systems:** No further information; see point 7.
- **Components with limit values related to the work station which require monitoring:**
  When using processing procedures which generate dust, the dust limit values must be adhered to.

105-60-2 epsilon-Caprolactam (< 1.0%)	
MAK	5 E mg/m³ (Vapour and dust); Y; DFG

- **Additional instructions:** The valid lists used for compilation serve as the basis.
- **Personal safety clothing and equipment:**
- **General safety and hygiene measures:** Avoid skin contact with the molten material.
- **Respiratory protection:** Not required if the room is well ventilated.
- **Hand protection:** Not required.
- **Glove material**
  The selection of a suitable glove does not just depend on the material but also on further quality properties and is different from manufacturer to manufacturer.
- **Penetration time of the glove material:** N/A.
- **Eye protection:** Not required.

9. Physical-chemical properties

- **Additional instructions for the design of technical systems:** No further information; see point 7.
- **Components with limit values related to the work station which require monitoring:**
  When using processing procedures which generate dust, the dust limit values must be adhered to.

General information	
Shape: **Colour:** **Smell:**	Solid (granulate) Off-white Almost odourless
Condition change	
Melting point/melting range: **Boiling point/boiling range:**	160-240 °C Not determined.
Flash point:	Not applicable.
Spontaneous combustibility:	The product is not spontaneously combustible.
Risk of explosion:	The product is not potentially explosive.
Density:	> 1.4
Solubility in / miscibility with Water:	Insoluble.

10. Stability and reactivity

- **Thermal decomposition / conditions which must be avoided:**
  No decomposition when used properly.
  Processing temperature is above: 220 °C
- **Hazardous reactions:** No know hazardous reactions.
- **Hazardous decomposition products:** No know hazardous decomposition products.

11. Toxicology information

- **Acute toxicity:**
- **Primary irritation:**
- **to the skin:** No irritation.
- **to the eye:** No irritation.
- **Sensitisation:** No sensitisation effect known.
- **Additional toxicological information:**
  The product is not subject to compulsory marking based on the calculation method of the general classification directive of the EC for preparations (latest version).
  In our experience and according to the information available to use, if handled properly and used in accordance with the proper use, the product has no adverse effect on health.

12. Ecology information

- **Other information:** The product is biologically persistent.
- **Further ecological information:**
- **Contains the following heavy metals as per EC Directive no. 76/464 EEC:** None
- **General information:**
  Water pollutant class: nwg (not water-polluting) as per VwVwS Annex 1 / no. 766

13. Instructions for disposal

- **Product:**
- **Recommendation:**
  For recycling requirements contact waste exchanges.
  For recycling requirements contact the manufacturer.
  Can be re-used after treatment.
  Taking into account the necessary technical regulations and after consultation with the disposing party and the respective authority, can be deposited with the domestic waste.
  Small quantities can be dumped together with the domestic waste.
  Can be re-used without treatment.
- **European Waste Catalogue (EAK, EWC, CED)**
  070213 Plastic waste (from MFSU of plastics)
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  Possibly also 191204, 170203, 020104
  The exact number must be determined.
- **Non-cleaned packaging:** See recommendation
- **Recommendation:**
  The packaging can be re-used after cleaning or utilised as a material.
- **Recommended cleaning agent:** Water, with cleaning agent additive as necessary.

14. Information on transportation

Road transport ADR/RID and GGVS/GGVE (cross-border/domestic): **ADR/RID/ADNR GGVS/E class:** -
Sea freight IMDG/GGVSee: **IMDG/GGVSee class:** - **Marine pollutant:** No
Air freight ICAO-TI and IATA-DGR: **ICAO/IATA class:** -

15. Legal regulations

- **Regulations on safety, health and environmental protection/specific legal regulations for the substance or the mixture**
  Water pollutant class (Annex 1 of VwVwS (Germany)): Not water-polluting.
- **Substance safety assessment**
  Substance safety assessment not required
  Product is not classified as hazardous.
  A safety data sheet for this product is not required by law and is only issued by us as a courtesy for our customer.