Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)
according to Regulation (EU) No 453/2010

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

1.1. **Product identifiers**

Article No. (manufacturer/supplier)	113-1703
Identification of the substance or mixture	REDOCRYL Härter HS 170 VOC Eco-Speed Härter lang

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

Relevant identified uses:
Hardener for 2 component polyurethane resins or coatings

1.3. **Details to the supplier providing the material safety data sheet**

Producer:

FEYCOLOR GmbH
Maxhuettenstraße 6,
93055 Regensburg,
Germany

Tel.: +49 (0) 941/ 60497-0
Fax.: +49 (0) 941/ 60497-30
info@feycolor.com www.feycolor.com

Office hours:
Monday - Thursday: 08:00 - 12:00 and 13:00 - 16:00
Friday: 08:00 - 12:00

Department responsible for information:
Hazardous material management: sd@feycolor.com

SECTION 2: Hazards identification

2.1. **Classification of the substance or mixture**

Classification according to Directive 67/548/EEC or 1999/45/EC

This mixture is classified as hazardous according to 1999/45/EC.

R10		Flammable
Xn; R20	Harmful	Harmful by inhalation.
Xi; R37	Irritant	Irritating to respiratory system.
R43		May cause sensitization by skin contact.

2.2. **Label elements**

Labelling (67/548/EEC or 1999/45/EC)

Xn Harmful

Hazard statements

10	Flammable
20	Harmful by inhalation.
37	Irritating to respiratory system.
43	May cause sensitization by skin contact.

Precautionary statements

24	Avoid contact with skin.
26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37	Wear suitable gloves.
38	In case of insufficient ventilation, wear suitable respiratory equipment.
51	Use only in well-ventilated areas.
23	Do not breathe vapour.

contains:

Hexamethlyen-1,6-diisocyanat Homopolymer Aliphatisches Polyisocyanat

Special provisions concerning the labelling of certain mixtures

91 Contains isocyanates. May produce an allergic reaction.

2.3. **Other hazards**

SECTION 3: Composition / information on ingredients

3.2. **Mixtures**

Product description / chemical characterization

Description Preparation out of polyisocyanate in solvents

Hazardous ingredients

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

EC No. CAS No. INDEX No.	REACH No. Chemical name classification	Wt % Remark
500-060-2 28182-81-2	01-2119488934-20-0000 1,6-Hexamethylene diisocyanate homopolymer Acute Tox. 4 H332 / STOT SE 3 H335 / Skin Sens. 1 H317	50 - 100
203-603-9 108-65-6 607-195-00-7	01-2119475791-29 2-methoxy-1-methylethyl acetate Flam. Liq. 3 H226	12,5 - 20
204-658-1 123-86-4 607-025-00-1	01-2119485493-29 n-butyl acetate Flam. Liq. 3 H226 / STOT SE 3 H336	5 - 10
212-485-8 822-06-0 615-011-00-1	01-2119457571-37 hexamethylene-di-isocyanate Acute Tox. 3 H331 / Eye Irrit. 2 H319 / STOT SE 3 H335 / Skin Irrit. 2 H315 / Resp. Sens. 1 H334 / Skin Sens. 1 H317	< 0,5

Classification according to Directive 67/548/EEC or 1999/45/EC

EC No. CAS No. INDEX No.	REACH No. Chemical name classification	Wt % Remark
500-060-2 28182-81-2	01-2119488934-20-0000 Hexamethlyen-1,6-diisocyanat Homopolymer Aliphatisches Polyisocyanat Xn; R20 / Xi; R37 / R43	50 - 100
203-603-9 108-65-6 607-195-00-7	01-2119475791-29 2-methoxy-1-methylethyl acetate R10	12,5 - 20 *
204-658-1 123-86-4 607-025-00-1	01-2119485493-29 n-butyl acetate R10 / R66 / R67	5 - 10
212-485-8 822-06-0 615-011-00-1	01-2119457571-37 hexamethylene-di-isocyanate T; R23 / Xi; R36/37/38 / R42/43	< 0,5

Additional information
* Substance with a common (EC) occupational exposure limit value.
Full text of R-phrases: see section 16.
Full text of H-phrases: see section 16.

SECTION 4: First aid measures

4.1. **Description of first aid measures**

General information

In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

After inhalation

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

Following skin contact

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and

soap. Do not use solvents or thinners.

After eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

After ingestion
If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do not induce vomiting.

4.2. **Most important symptoms and effects, both acute and delayed**
In all cases of doubt, or when symptoms persist, seek medical advice.

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

SECTION 5: Firefighting measures

5.1. **Extinguishing media**

Suitable extinguishing media
alcohol resistant foam, carbon dioxide, Powder, spray mist, (water)

Extinguishing media which must not be used for safety reasons:
strong water jet

5.2. **Special hazards arising from the substance or mixture**
Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

5.3. **Special protective equipment for firefighters:**
Provide a conveniently located respiratory protective device.

Additional information
Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways. Treat runoff as hazardous.

SECTION 6: Accidental release measures

6.1. **Personal precautions, protective equipment and emergency procedures**
Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours. See protective measures under point 7 and 8.

6.2. **Environmental precautions**
Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

6.3. **Methods and material for containment and cleaning up**
Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see chapter 13). Clean using cleansing agents. Do not use solvents.

6.4. **Reference to other sections**
Observe protective provisions (see chapter 7 and 8).

SECTION 7: Handling and storage

7.1. **Precautions for safe handling**

Advices on safe handling

Avoid formation of flammable and explosive vapour concentrations in the air and exceeding the exposure limit values. Only use the material in places where open light, fire and other flammable sources can be kept away. Electrical equipment must be protected meeting the accepted standard. Product may become electrostatically charged. Provide earthing of containers, equipment, pumps and ventilation facilities. Anti-static clothing including shoes are recommended. Floors must be electrically conductive. Keep away from heat sources, sparks and open flames. Use only spark proof tools. Avoid contact with skin, eyes and clothes. Do not inhale dusts, particulates and spray mist when using this preparation. Avoid respiration of swarf. When using do not eat, drink or smoke. Personal protection equipment: refer to chapter 8. Do not empty containers with pressure - no pressure vessel! Always keep in containers that correspond to the material of the original container. Follow the legal protection and safety regulations.

Precautions against fire and explosion:
Vapours are heavier than air. Vapours form explosive mixtures with air.

7.2. **Conditions for safe storage, including any incompatibilities**

Requirements for storage rooms and vessels

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (BGR 132)".

Hints on joint storage
Keep away from strongly acidic and alkaline materials as well as oxidizers.

Further information on storage conditions
Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 15 °C and 30 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

7.3. **Specific end use(s)**
Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1. **Control parameters**
Occupational exposure limit values:

n-butyl acetate
INDEX No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4
EN, TWA: 724 mg/m3; 150 ppm
EN, STEL: 966 mg/m3; 200 ppm

2-methoxy-1-methylethyl acetate
INDEX No. 607-195-00-7 / EC No. 203-603-9 / CAS No. 108-65-6
EN, TWA: 274 mg/m3; 50 ppm
EN, STEL: 548 mg/m3; 100 ppm

Additional information
TWA : long-term occupational exposure limit value
STEL : short-term occupational exposure limit value
Ceiling : peak limitation

8.2. **Exposure controls**
Provide good ventilation. This can be achieved with local or room suction. If this should not be sufficient to keep aerosol and solvent vapour concentration below the exposure limit values, a suitable respiratory protection must be used.

Occupational exposure controls

Respiratory protection
If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number.

Dand protection
For prolonged or repeated handling the following glove material must be used: solventresistant Latex gloves
Thickness of the glove material > 0,4 mm ; Breakthrough time (maximum wearing time) > 480 min.
Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles DIN EN 374
Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

Eye protection
Wear closely fitting protective glasses in case of splashes.

Protective clothing
Wear antistatic clothing of natural fibers (cotton) or heat resistant synthetic fibers.

Protective measures
After contact clean skin thoroughly with water and soap or use appropriate cleanser.

Environmental exposure controls
Do not allow to enter into surface water or drains. See chapter 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

9.1. **Information on basic physical and chemical properties**
Appearance:

Physical state	liquid
Colour	see productname
Odour	typical

Safety relevant basis data		Unit	Method	Remark
Flash point:	26	°C		
Ignition temperature in °C:	180	°C		
lower explosion limit:	1,2	Vol-%		
Upper explosion limit:	10,8	Vol-%		
Vapour pressure at 20 °C:	1,57	mbar		
Density at 20 °C:	1,06	g/cm³		
Water solubility (g/L):	insoluble			
pH value at 20 °C:	n.a.	Wt %		
Viscosity at 20 °C:	> 15 s 4 mm		DIN 53211	
Solvent separation test (%):	< 3	%	ADR/RID	
Solid content (%):	60	Wt %		
solvent content:				
Organic solvents:	40,46	Wt %		
Water:	0,00	Wt %		

9.2. **Other information**

SECTION 10: Stability and reactivity

10.1. **Reactivity**

10.2. **Chemical stability**
Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to chapter 7.

10.3. **Possibility of hazardous reactions**
Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

10.4. **Conditions to avoid**
Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to chapter 7. Hazardous decomposition byproducts may form with exposure to high temperatures.

10.5. **Incompatible materials**

10.6. **Hazardous decomposition products**
Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

SECTION 11: Toxicological information

No data on preparation itself available.

11.1. **Information on toxicological effects**

Acute toxicity

Toxicological data are not available.

Irritant and corrosive effects

Toxicological data are not available.

Sensitisation

Toxicological data are not available.

Specific target organ toxicity

Toxicological data are not available.

Aspiration hazard

Toxicological data are not available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Toxicological data are not available.

Practical experience/human evidence

Other observations:
Inhaling of solvent components above the MWC-value can lead to health damage, e.g. irritation of the mucous membrane and respiratory organs, as well as damage to the liver, kidneys and the central nerve system. Indications for this are:

headache, dizziness, fatigue, amyosthenia, dizziness, in serious cases: unconsciousness. Solvents may cause some of the aforementioned effects through skin resorption. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin. Splashing may cause eye irritation and reversible damage.

Overall Assessment on CMR properties

The ingredients in this preparation do not meet the criteria for classification as CMR category 1 or 2. according to 67/548/EEC.

There is no information available on the preparation itself . The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified according to the toxicological dangers.See chapters 2 and 15 for details.

SECTION 12: Ecological information

overall evaluation
There is no information available on the preparation itself .
Do not allow to enter into surface water or drains.

12.1. **Toxicity**
No information available.

Long-term Ecotoxicity

Toxicological data are not available.

12.2. **Persistence and degradability**
Toxicological data are not available.

12.3. **Bioaccumulative potential**
Toxicological data are not available.

Bioconcentration factor (BCF)

Toxicological data are not available.

12.4. **Mobility in soil**
Toxicological data are not available.

12.5. **Results of PBT assessment**

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

12.6. **Other adverse effects**

SECTION 13: Disposal considerations

13.1. **Waste treatment methods**

Appropriate disposal / Product
Recommendation
Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to EC directives 75/442/EEC and 91/689/EEC in the corresponding versions, covering waste and dangerous waste.

List of proposed waste codes/waste designations in accordance with EWC

080111	waste paint and varnish containing organic solvents or other dangerous substances

packaging
Recommendation
Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

SECTION 14: Transport information

14.1. **UN number**

1263

14.2. **UN proper shipping name**

Land transport (ADR/RID):	Paint
Sea transport (IMDG):	PAINT
Air transport (ICAO-TI / IATA-DGR):	Paint

14.3. **Transport hazard class(es)**

3

14.4. **Packing group**

III

14.5. **Environmental hazards**

Land transport (ADR/RID)	n.a.
Marine pollutant	n.a.

14.6. **Special precautions for user**

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.
Advices on safe handling: see parts 6 - 8

Additional information

Land transport (ADR/RID)

tunnel restriction code	D/E SONDERVORSCHRIFT 640E

Sea transport (IMDG)

EmS-No.	F-E, S-E

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

not applicable

SECTION 15: Regulatory information

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

EU legislation

Information according to 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline).

VOC-value (in g/L) ISO 11890-2:	430
VOC-value (in g/L) ASTM D 2369:	430

according to EU-regulation 2004/42/EC (appendix II)
EU limit value for this product (cat. nicht anwendbar): 0 g/l (2007)/0 g/l (2010).
This product contains max 430 g/l VOC.

National regulations

Restrictions of occupation
Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Observe restrictions to employment for juvenils according to the "juvenile work protection guideline" (94/33/EC).

Other regulations, restrictions and prohibition regulations

15.2. **Chemical Safety Assessment**
Chemical safety assessments for substances in this preparation were not carried out.

SECTION 16: Other information

Relevant R-and H-phrases (Number and full text):

Acute Tox. 4 / H332	Acute toxicity (inhalative)	Harmful if inhaled.
STOT SE 3 / H335	Specific target organ toxicity (single exposure)	May cause respiratory irritation.
Skin Sens. 1 / H317	respiratory or skin sensitisation	May cause an allergic skin reaction.
Flam. Liq. 3 / H226	flammable liquids	Flammable liquid and vapour.
STOT SE 3 / H336	Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness.
Acute Tox. 3 / H331	Acute toxicity (inhalative)	Toxic if inhaled.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
Skin Irrit. 2 / H315	skin corrosion/irritation	Causes skin irritation.
Resp. Sens. 1 / H334	respiratory or skin sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
T; R23	Toxic	Toxic by inhalation.
Xi; R36/37/38	Irritant	Irritating to eyes, respiratory system and skin.
R42/43		May cause sensitization by inhalation and skin

		contact.
R10		Flammable
R66		Repeated exposure may cause skin dryness or cracking.
R67		Vapours may cause drowsiness and dizziness.
Xn; R20	Harmful	Harmful by inhalation.
Xi; R37	Irritant	Irritating to respiratory system.
R43		May cause sensitization by skin contact.

Additional information

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in chapter 1. It is always the user"s duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.