

Article No.: 610-00069-00 Hardener 69
Print date: 31.07.2019 Revision date: 06.05.2019 EN
Version: 3.0 Issue date: 06.05.2019 Page 1 / 9

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

1.1. Product identifier

Article No. (manufacturer/supplier) 610-00069-00
Trade name/designation Hardener 69

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

Relevant identified uses

Harder

1.3. Details of the supplier of the safety data sheet

manufacturer

Zuelch
Industrial Coatings GmbH Telephone: +49 5522 9015 0
Friedrich-Ebert-Straße 204-206 Telefax: +49 5522 9015 55
D-37520 Osterode OT Lerbach

Dept. responsible for information:

Labor
E-mail: service@zuelch.de

1.4. Emergency telephone number

Emergency telephone number: +49 5522 9015 0
Only available during office hours.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Flam. Liq. 3 / H226	Flammable liquids	Flammable liquid and vapour.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.

2.2. Label elements

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

Hazard pictograms



Warning

Hazard statements

H226 Flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves and eye/face protection.
P370 + P378 In case of fire: Use extinguishing powder or sand to extinguish.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.

Hazard components for labelling

Poly(Hexamethylene Diisocyanate)
n-butyl acetate
hexamethylene-di-isocyanate

Supplemental Hazard information (EU)

EUH066 Repeated exposure may cause skin dryness or cracking.
EUH204 Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards

No information available.

SECTION 3: Composition / information on ingredients

Article No.: 610-00069-00 Hardener 69
Print date: 31.07.2019 Revision date: 06.05.2019
Version: 3.0 Issue date: 06.05.2019

EN
Page 2 / 9

3.2. Mixtures

Description Preparation of polyisocyanate and solvent

Hazardous ingredients

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

EC No.	REACH No.	Wt %
CAS No.	Designation	
INDEX No.	classification: // Remark	
28182-81-2	Poly(Hexamethylene Diisocyanate) Skin Sens. 1 H317	50 - 100
204-658-1	01-2119485493-29-xxxx	
123-86-4	n-butyl acetate	20 - 25
607-025-00-1	Flam. Liq. 3 H226 / STOT SE 3 H336	
212-485-8	01-2119457571-37-0000	
822-06-0	hexamethylene-di-isocyanate	< 0,5
615-011-00-1	Acute Tox. 3 H331 / Eye Irrit. 2 H319 / STOT SE 3 H335 / Skin Irrit. 2 H315 / Resp. Sens. 1 H334 / Skin Sens. 1 H317 Specific concentration limit (SCL): Resp. Sens. 1 H334 >= 0,5 / Skin Sens. 1 H317 >= 0,5	

Additional information

Full text of classification: 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.

In case of 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

Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

After eye contact

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

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. Advice for firefighters

Provide a conveniently located respiratory protective device. 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.

Article No.: 610-00069-00 Hardener 69
Print date: 31.07.2019 Revision date: 06.05.2019
Version: 3.0 Issue date: 06.05.2019

EN
Page 3 / 9

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.

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 section 13). Clean using cleansing agents. Do not use solvents.

6.4. Reference to other sections

Observe protective provisions (see section 7 and 8).

SECTION 7: Handling and storage

People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this preparation.

People who spray this preparation should have regular pulmonary function tests.

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. Be careful when opening used containers (excess pressure). Precautionary measures should be taken in order to reduce strain from humidity or water: CO₂ is formed which may produce excess pressure in closed containers. 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 section 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.

Further information

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 (TRBS 2153)".

Hints on joint storage

Keep away from strongly acidic and alkaline materials as well as oxidizers. Keep away from amines, alcohols and water.

Further information on storage conditions

Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 5 °C and 35 °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. Observe instructions for use.

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

MEL/OES, TWA: 724 mg/m³; 150 ppm

MEL/OES, STEL: 966 mg/m³; 200 ppm

Article No.: 610-00069-00 Hardener 69
Print date: 31.07.2019 Revision date: 06.05.2019
Version: 3.0 Issue date: 06.05.2019

EN
Page 4 / 9

Additional information

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

DNEL:

n-butyl acetate
INDEX No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4
DNEL acute inhalative (local), Workers: 960 mg/m³
DNEL acute inhalative (systemic), Workers: 960 mg/m³
DNEL long-term inhalative (local), Workers: 480 mg/m³
DNEL long-term inhalative (systemic), Workers: 480 mg/m³

PNEC:

n-butyl acetate
INDEX No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4
PNEC aquatic, freshwater: 0,18 mg/l
PNEC aquatic, marine water: 0,018 mg/l
PNEC aquatic, intermittent release: 0,36 mg/l
PNEC sediment, freshwater: 0,981 mg/kg
PNEC sediment, marine water: 0,0981 mg/kg
PNEC, soil: 0,0903 mg/kg
PNEC sewage treatment plant (STP): 35,6 mg/l

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.

Personal protection equipment

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.

Hand protection

For prolonged or repeated handling the following glove material must be used: Butyl caoutchouc (butyl rubber) / Butyl caoutchouc (butyl rubber)

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 EN ISO 374 Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

Eye/face protection

Wear closely fitting protective glasses in case of splashes.

Body protection

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 section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:

Physical state:	Liquid
Appearance:	Liquid
Colour:	Trade name/designation

Odour: characteristic

Odour threshold: not applicable

pH at 20 °C: neutral

Melting point/freezing point: -

Article No.: 610-00069-00 Hardener 69
Print date: 31.07.2019 Revision date: 06.05.2019 EN
Version: 3.0 Issue date: 06.05.2019 Page 5 / 9

Initial boiling point and boiling range:	124 °C Source: n-butyl acetate
Flash point:	34 °C Method: DIN 53213
Evaporation rate:	not applicable
flammability	
Burning time (s):	not applicable
Upper/lower flammability or explosive limits:	
Lower explosion limit:	1,2 Vol-%
Upper explosion limit:	7,5 Vol-% Source: n-butyl acetate
Vapour pressure at 20 °C:	3,09 mbar Method: calculated.
Vapour density:	not applicable
Relative density:	
Density at 20 °C:	1,07 g/cm³ Method: DIN 53217
Relative density at 20 °C::	not applicable
Solubility(ies):	
Water solubility (g/L) at 20 °C:	insoluble
Partition coefficient: n-octanol/water:	see section 12
Auto-ignition temperature:	420 °C Source: n-butyl acetate
Decomposition temperature:	not applicable
Viscosity at 20 °C:	40 s 4 mm Method: DIN 53211
Explosive properties:	not applicable
Oxidising properties:	not applicable
9.2. Other information	
Solid content (%):	75 Wt % / 71 Vol-% Remark: Solid content (%)Remark
Solvent:	
Organic solvents:	24,7 Wt %
aromatic hydrocarbons:	0,0 Wt %
Water:	0,0 Wt %

SECTION 10: Stability and reactivity

- 10.1. Reactivity**
No information available.
- 10.2. Chemical stability**
Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.
- 10.3. Possibility of hazardous reactions**
Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions. Reacts with water, forming carbon dioxide, producing bursting hazard in closed containers due to build-up of pressure.
- 10.4. Conditions to avoid**
Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7. Hazardous decomposition byproducts may form with exposure to high temperatures.
- 10.5. Incompatible materials**
not applicable
- 10.6. Hazardous decomposition products**
Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

Article No.: 610-00069-00 Hardener 69
Print date: 31.07.2019 Revision date: 06.05.2019
Version: 3.0 Issue date: 06.05.2019

EN
Page 6 / 9

SECTION 11: Toxicological information

Classification according to Regulation (EC) No 1272/2008 [CLP]
No data on preparation itself available.

11.1. Information on toxicological effects

Acute toxicity, calculated:

ATEmix calculated, inhalative (vapours): > 20 mg/l

Acute toxicity

n-butyl acetate

oral, LD50, Rat: 10760 mg/kg

dermal, LD50, Rabbit: > 14000 mg/kg

inhalative (vapours), LC50, Rat: > 21 mg/l (4 h)

Skin corrosion/irritation; Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Based on available data, the classification criteria are not met.

STOT-single exposure; STOT-repeated exposure

May cause drowsiness or dizziness.

Aspiration hazard

Based on available data, the classification criteria are not met.

Practical experience/human evidence

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, drowsiness, 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 mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

Remark

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

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

There is no information available on the preparation itself.

Do not allow to enter into surface water or drains.

12.1. Toxicity

n-butyl acetate

Fish toxicity, LC50, Pimephales promelas (fathead minnow): 18 mg/l (96 h)

Daphnia toxicity, EC50, Daphnia magna (Big water flea): 44 mg/l (48 h)

Long-term Ecotoxicity

n-butyl acetate

Daphnia toxicity, NOEC, Daphnia magna (Big water flea): 23 mg/l (21 D)

12.2. Persistence and degradability

Toxicological data are not available.

12.3. Bioaccumulative potential

Toxicological data are not available.

Bioconcentration factor (BCF)

Article No.: 610-00069-00 Hardener 69
Print date: 31.07.2019 Revision date: 06.05.2019
Version: 3.0 Issue date: 06.05.2019

EN
Page 7 / 9

Toxicological data are not available.

12.4. Mobility in soil

Toxicological data are not available.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate disposal / Product Recommendation

Do not allow to enter into surface water or drains. Handle contaminated packages in the same way as the substance itself. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, 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

*Hazardous waste according to Directive 2008/98/EC (waste framework directive).

Appropriate disposal / Package Recommendation

Recommendation

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

SECTION 14: Transport information

14.1. UN number

UN 1263

14.2. UN proper shipping name

Land transport (ADR/RID):

Paint related material

Sea transport (IMDG):

PAINT RELATED MATERIAL

Air transport (ICAO-TI / IATA-DGR):

Paint related material

14.3. Transport hazard class(es)

3

14.4. Packing group

III

14.5. Environmental hazards

Land transport (ADR/RID)

not applicable

Marine pollutant

not applicable

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

Further information

Land transport (ADR/RID)

tunnel restriction code

D/E

Sea transport (IMDG)

EmS-No.

F-E, S-E

14.7. Transport in bulk according to Annex II of Marpol 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

Directive 2010/75/EU on industrial emissions

Article No.: 610-00069-00 Hardener 69
Print date: 31.07.2019 Revision date: 06.05.2019 EN
Version: 3.0 Issue date: 06.05.2019 Page 8 / 9

VOC-value (in g/L): 264

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).

15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Full text of classification in section 3:

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	STOT-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.
STOT SE 3 / H335	STOT-single exposure	May cause respiratory 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.

Classification procedure

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

Flam. Liq. 3	Flammable liquids	On basis of test data.
Skin Sens. 1	Respiratory or skin sensitisation	Calculation method.
STOT SE 3	STOT-single exposure	Calculation method.

Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
OEL	Occupational Exposure Limit Value
BLV	Biological Limit Value
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic and Reprotoxic
DIN	German Institute for Standardization / German industrial standard
DNEL	Derived No-Effect Level
EAKV	European Waste Catalogue Directive
EC	Effective Concentration
EC	European Community
EN	European Standard
IATA-DGR	International Air Transport Association – Dangerous Goods Regulations
IBC Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI	International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG Code	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
LC	Lethal Concentration
LD	Lethal Dose
MARPOL	Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
IMDG Code	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
VOC	Volatile Organic Compounds
vPvB	very persistent and very bioaccumulative

Further information

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

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and

Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)
according to Regulation (EU) 2015/830



Article No.: 610-00069-00 Hardener 69
Print date: 31.07.2019 Revision date: 06.05.2019
Version: 3.0 Issue date: 06.05.2019

EN
Page 9 / 9

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.