

**Safety Data Sheet**  
according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2020/878



Article No.: 3243  
Print date: 21.08.2025  
Version: 74

Additive Hardener 2K  
Revision date: 20.05.2025  
Issue date: 20.05.2025

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

**1.1. Product identifier**

Article No. (manufacturer/supplier) 3243  
Trade name/designation Additive Hardener 2K  
UFI: AGP0-Q0CU-D00P-67DP

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

**Relevant identified uses**

Hardener-Compound

**1.3. Details of the supplier of the safety data sheet**

**manufacturer**

Saicos Colour GmbH  
Carl-Zeiss-Str.3  
D-48336 Sassenberg

Telephone: +49 (0) 2583 3037-0  
Telefax: +49 (0) 2583 3037-10

**Department responsible for information:**

E-mail (competent person) info@saicos.de

**1.4. Emergency telephone number**

Giftnotruf Berlin: +49 30 30686 700 Beratung in Deutsch und Englisch

**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].

Acute Tox. 4 / H332	Acute toxicity (inhalative)	Harmful if inhaled.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
STOT SE 3 / H335	STOT-single exposure	May cause respiratory irritation.
Aquatic Chronic 3 / H412	Hazardous to the aquatic environment	Harmful to aquatic life with long lasting effects.

**2.2. Label elements**

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

**Hazard pictograms**



**Warning**

**Hazard statements**

H332 Harmful if inhaled.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P261 Avoid breathing vapours.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves and eye protection/face protection.  
P302 + P352 IF ON SKIN: Wash with plenty of water and soap.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P312 Call a POISON CENTER or doctor/physician if you feel unwell.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Keep locked up.  
P501 Dispose of contents/container to industrial incineration plant.

**Hazard components for labelling**

Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolymer

**Supplemental hazard information**

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not applicable

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Description** Aliphatic polyisocyanate

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

EC No.	REACH No.	weight-%
CAS No.	Designation	
Index No.	classification: // Remark	
666723-27-9	Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolymer Acute Tox. 4 H332 / Skin Sens. 1B H317 / STOT SE 3 H335 / Aquatic Chronic 3 H412	50 - 100

**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.

**Following 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.

**SECTION 6: Accidental release measures**

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## 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). Use appropriate container to avoid environmental contamination. Fouled surfaces must be immediately cleaned with suitable solvents, Useable as such (flammable): water 45 vol.% ethanol or i-propanol 50 vol. % ammonia solution (density= 0.88) 5 vol.%

Alternative (non-flammable): sodium carbonate 5 vol.% water 95 vol.%.

Take up spilled residuals with the same agent and leave them for a few days in unclosed containers until there is no further reaction. Then, close the containers and dispose of them in accordance with the regulations for waste removal (refer to section 13).

## 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 mixture.

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: CO<sub>2</sub> 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 (TRGS 727)".

### 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 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. Observe instructions for use.

## SECTION 8: Exposure controls/personal protection

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

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

## 8.1. Control parameters

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**Occupational exposure limit values:**

not applicable

**8.2. Exposure controls**

Provide good ventilation. This can be achieved with local or room suction. When spraying, wear self-contained breathing apparatus. For other tasks a suitable respiratory system must be used, if local and room suction is not sufficient for keeping aerosol and solvent vapour concentration below the exposure limit values. (refer to Personal protection equipment.)

**Personal protection equipment**

**Respiratory protection**

If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. 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)

Thickness of the glove material > 0,4 mm ; Breakthrough 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 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**

<b>Physical state:</b>	<b>Liquid</b>
<b>Colour:</b>	<b>colourless</b>
<b>Odour:</b>	<b>characteristic</b>
<b>Odour threshold:</b>	<b>not applicable</b>
<b>Melting point/freezing point:</b>	<b>not applicable</b>
<b>Initial boiling point and boiling range:</b>	<b>175 °C</b> Source: Dipropylene glycol dimethyl ether
<b>Flammability</b>	Combustible liquid.
<b>Lower and upper explosion limit</b>	
<b>Lower explosion limit:</b>	<b>0,7 Vol-%</b>
<b>Upper explosion limit:</b>	<b>7,4 Vol-%</b> Source: Dipropylene glycol dimethyl ether
<b>Flash point:</b>	<b>65 °C</b> Method: DIN 53213-1
<b>Auto-ignition temperature:</b>	<b>165 °C</b> Source: Dipropylene glycol dimethyl ether
<b>Decomposition temperature:</b>	<b>not applicable</b>
<b>pH at 20 °C:</b>	<b>not applicable</b>
<b>Kinematic viscosity (40°C):</b>	<b>&lt; 270 mm<sup>2</sup>/s</b>
<b>Viscosity at 20 °C:</b>	<b>49 s 4 mm</b> Method: DIN 53211

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**Solubility(ies):**  
**Water solubility at 20 °C:** partially soluble  
**Partition coefficient: n-octanol/water:** see section 12  
**Vapour pressure at 20 °C:** 0,175 mbar  
Method: calculated.

**Density and/or relative density:**  
**Density at 20 °C:** 1,08 g/cm<sup>3</sup>  
**Relative vapour density:** not applicable  
**particle characteristics:** not applicable

9.2. **Other information**

**Solid content:** 75 weight-%  
**solvent content:**  
**Organic solvents:** 25 weight-%  
**Water:** 0 weight-%

**SECTION 10: Stability and reactivity**

10.1. **Reactivity**

Reacts with water, forming carbon dioxide, producing bursting hazard in closed containers due to build-up of pressure.

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.

**SECTION 11: Toxicological information**

11.1. **Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Acute toxicity**

Harmful if inhaled.

Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolymer  
oral, LD50, Rat: > 2000 mg/kg  
dermal, LD50, Rat: > 2000 mg/kg  
inhalative (dust and mist), LC50, Rat: 0,39 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.

Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolymer

Skin, Mouse: ; Evaluation positive

May cause sensitization by skin contact.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

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

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**STOT-single exposure; STOT-repeated exposure**

May cause respiratory irritation.

**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. Because of the isocyanate components' properties of this and with consideration of similar preparations the following applies: This mixture may cause acute irritation and/or sensitization of airways which lead to tightness in thorax, short-breath and asthmatic complaints. After sensitization even concentrations below the exposure limit values may cause asthma. Repeated inhaling can lead to permanent illness of the respiratory tract.

**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.

**11.2. Information on other hazards**

**Endocrine disrupting properties**

No information available.

**SECTION 12: Ecological information**

Classification according to Regulation (EC) No 1272/2008 [CLP]  
Do not allow to enter into surface water or drains.

**12.1. Toxicity**

Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolymer

Fish toxicity, LC50, Danio rerio (zebrafish): 35,2 mg/L (96 h)

Daphnia toxicity, EC50, Daphnia magna (Big water flea): > 100 mg/L (48 h)

Algae toxicity, ErC50, Desmodesmus subspicatus: 72 mg/L (72 h)

**Long-term Ecotoxicity**

Harmful to aquatic life with long lasting effects.

**12.2. Persistence and degradability**

Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolymer

: > 0,1 Degradation rate (28 day(s)); Evaluation Not readily biodegradable (according to OECD criteria)

**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 and vPvB assessment**

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

**12.6. Endocrine disrupting properties**

No information available.

**12.7. 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

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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**

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

**SECTION 14: Transport information**

**No dangerous good in sense of this transport regulation.**

14.1. **UN number or ID number**

not applicable

14.2. **UN proper shipping name**

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

not applicable

14.4. **Packing group**

not applicable

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

-

**Sea transport (IMDG)**

EmS-No.

not applicable

14.7. **Maritime transport in bulk according to IMO instruments**

No transport as bulk according IBC - Code.

**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 [Industrial Emissions Directive]**

VOC-value (in g/L): 270

**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 juveniles 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:**

Acute Tox. 4 / H332

Acute toxicity (inhalative)

Harmful if inhaled.

Skin Sens. 1B / H317

Respiratory or skin sensitisation

May cause an allergic skin reaction.

STOT SE 3 / H335

STOT-single exposure

May cause respiratory irritation.

Aquatic Chronic 3 / H412

Hazardous to the aquatic environment

Harmful to aquatic life with long lasting effects.

**Classification procedure**

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Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]		
Acute Tox. 4	Acute toxicity (inhalative)	Calculation method.
Skin Sens. 1	Respiratory or skin sensitisation	Calculation method.
STOT SE 3	STOT-single exposure	Calculation method.
Aquatic Chronic 3	Hazardous to the aquatic environment	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
MAK	Maximum workplace concentration
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
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
UN	United Nations
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 EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in section 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.