Gute Chemie abcr

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Safety Data Sheet AB 110806

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878 - Europe
Date of revision 11.12.2024
Version 0.3

1. Identification of the Substance and the Company

1.1 Product identifier

Product name	N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane; 97%
REACH Registration number	01-2119970215-39-XXXX
CAS number	1760-24-3
Product code	AB110806

1.2 Identified uses

Chemicals used in research and development, analysis and production

1.3 Details of the supplier of the safety data sheet

Company details	abcr GmbH Im Schlehert 10 76187 Karlsruhe Germany
Telephone	+49 (0)721 950 610
Email	sdb@abcr.com

1.4 Emergency telephone number

Emergency CONTACT (24-Hour-Number):
GBK GmbH +49 (0)6132-84463 (multilingual)

2. Hazards identification

2.1 Classification of the substance or mixture

Product definition Substance

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

H332	ACUTE TOXICITY (inhalation)		Category 4
H318	SERIOUS EYE DAMAGE/ EYE IRRITATION		Category 1
H317	SKIN SENSITIZATION		Category 1B
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE)	inhalation	Category 2

2.2 Label elements

Hazard pictograms

Signal word Danger

Hazard statements
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H332 - Harmful if inhaled.
H373 - May cause damage to organs through prolonged or repeated exposure. (respiratory tract) (inhalation)

Precautionary statements
P280 - Wear protective gloves. Wear eye or face protection.
P261 - Avoid breathing vapor.
P312 - Call a POISON CENTER or physician if you feel unwell.
P314 - Get medical advice or attention if you feel unwell.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazardous ingredients
N-(2-Aminoethyl)-3-aminopropyl-trimethoxysilane

Supplemental label elements
Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

PBT	P	B	T	vPvB	vP	vB
N/A	N/A	N/A	Yes	N/A	N/A	N/A

Other hazards which do not result in classification
None known.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Substance/mixture Mono-constituent substance

Product/ingredient name	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP]	Specific Conc. Limits, M-factors and ATEs	Type
N-(2-Aminoethyl)-3-aminopropyl-trimethoxysilane	REACH #: 01-2119970215-39 EC: 217-164-6 CAS: 1760-24-3	100	Acute Tox. 4, H332 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT RE 2, H373 (respiratory tract) (inhalation) **See Section 16 for the full text of the H statements declared above.**	ATE [Inhalation (vapours)] = 11 mg/l	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Constituent

Occupational exposure limits, if available, are listed in Section 8.

4. First aid measures

4.1 Description of first aid measures

Eye contact

Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation

Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact Causes serious eye damage.

Inhalation Harmful if inhaled.

Skin contact May cause an allergic skin reaction.

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain watering redness
Skin contact	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	Adverse symptoms may include the following: stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	No specific treatment.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	In case of fire, use water spray (fog), foam, dry chemical or CO_2.
Unsuitable extinguishing media	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	Combustible. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides metal oxide/oxides

5.3 Advice for firefighters

Special precautions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

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7. Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Keep under inert atmosphere.
Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations	Not available.
Industrial sector specific solutions	Not available.

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8. Exposure controls/Personal protective equipment

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

No DELs available.

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
Skin protection	
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	
Physical state	Liquid.
Color	Colorless.
Odor	Amine-like.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	<-50°C
Initial boiling point and boiling range	140 °C [15 mm Hg]
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.

Flash point	Closed cup: 121°C
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Solubility(ies)	
Not available.	
Solubility at room temperature	Insoluble [H2O] Decomposes.
Partition coefficient: n-octanol/ water	Not available.
Vapor pressure	Not available.
Evaporation rate	Not available.
Relative density	Not available.
Density	1,01 g/cm³ [20°C]
Vapor density	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
Particle characteristics	
Median particle size	Not applicable.

9.2 Other information

Burning time	Not applicable.
Burning rate	Not applicable.

No additional information.

10. Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

Moisture-sensitive material.
Handle under inert gas.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

exposure to heat and moisture

10.5 Incompatible materials

Oxidizing agent.
water
acids

10.6 Hazardous decomposition products

methanol

11. See toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
N-(2-Aminoethyl)-3-aminopropyl-trimethoxysilane	LC50 Inhalation Dusts and mists	Rat	1,49 to 2,44 mg/l	4 hours
	LD50 Oral	Rat	2413 mg/kg	-

Conclusion/Summary Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
N-(2-Aminoethyl)-3-aminopropyl-trimethoxysilane	2413	N/A	N/A	11	1,5

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
N-(2-Aminoethyl)-3-aminopropyl-trimethoxysilane	Eyes - Severe irritant	Rabbit	-	15 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

Conclusion/Summary Not available.

Sensitizer

Conclusion/Summary Not available.

Mutagenicity

Conclusion/Summary Not available.

Carcinogenicity

Conclusion/Summary Not available.

Reproductive toxicity

Conclusion/Summary Not available.

Teratogenicity

Conclusion/Summary Not available.

Information on the likely routes of exposure	Not available.

Potential acute health effects

Inhalation	Harmful if inhaled.
Skin contact	May cause an allergic skin reaction.
Ingestion	No known significant effects or critical hazards.
Eye contact	Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	No specific data.
Ingestion	Adverse symptoms may include the following: stomach pains
Skin contact	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Eye contact	Adverse symptoms may include the following: pain watering redness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	Not available.
Potential delayed effects	Not available.

Long term exposure

Potential immediate effects	Not available.
Potential delayed effects	Not available.

Potential chronic health effects

Not available.

Conclusion/Summary	Not available.
General	May cause damage to organs through prolonged or repeated exposure if inhaled. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

12. Ecological Information

12.1 Toxicity

Conclusion/Summary Not available.

12.2 Persistence and degradability

Conclusion/Summary Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
N-(2-Aminoethyl)-3-aminopropyl-trimethoxysilane	N/A	N/A	N/A	Yes	N/A	N/A	N/A

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

13. Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
14.6 Special precautions for user	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Additional information	-	-	-	-

14.7 Transport in bulk according to IMO instruments

Not available.

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15. Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.
Other EU regulations	
Industrial emissions (integrated pollution prevention and control) - Air	Not listed
Industrial emissions (integrated pollution prevention and control) - Water	Not listed

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

China	This material is listed or exempted.
Canada	This material is listed or exempted.
Australia	This material is listed or exempted.
Eurasian Economic Union	**Russian Federation inventory**: Not determined.
Japan	**Japan inventory (CSCL)**: This material is listed or exempted. **Japan inventory (ISHL)**: Not determined.
New Zealand	This material is listed or exempted.
Philippines	This material is listed or exempted.
Republic of Korea	This material is listed or exempted.
Taiwan	This material is listed or exempted.
Thailand	Not determined.
Turkey	Not determined.
United States	This material is listed or exempted.
Viet Nam	Not determined.

15.2 Chemical Safety Assessment	Not available.

16. Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Acute Tox. 4, H332	Expert judgment
Eye Dam. 1, H318	Expert judgment
Skin Sens. 1B, H317	Expert judgment
STOT RE 2, H373 (respiratory tract) (inhalation)	Expert judgment

Full text of abbreviated H statements	H317	May cause an allergic skin reaction.
	H318	Causes serious eye damage.
	H332	Harmful if inhaled.
	H373	May cause damage to organs through prolonged or repeated exposure.
Full text of classifications [CLP/GHS]	Acute Tox. 4	ACUTE TOXICITY - Category 4
	Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
	Skin Sens. 1B	SKIN SENSITIZATION - Category 1B
	STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Full text of classifications [CLP/GHS]	Acute Tox. 4	ACUTE TOXICITY - Category 4
	Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
	Skin Sens. 1B	SKIN SENSITIZATION - Category 1B
	STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

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Notice to reader

The above information is based on our present state of knowledge. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application.