



SAFETY DATA SHEET ALOCIT H1 Hardener

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

1.1. Product identifier

Product name ALOCIT H1 HARDENER

Product number AS33051A

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

Identified uses ACTIVATION COMPONENT OF 2 PART EPOXY COATING SYSTEM

1.3. Details of the supplier of the safety data sheet

Supplier: ALOCIT INTERNATIONAL LTD, 3 CHARLES WOOD ROAD, DEREHAM, NR19 1SX UK
Phone: +44 (0)1362-694915 Fax: + 44 (0)1362-695350

1.4. Emergency telephone number

24 HR EMERGENCY TELEPHONE NUMBER:

AUS:	61 (0) 400844736
UK:	44 (0) 7825 987326
US:	1 800 535 5053

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302 Skin Corr. 1A - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317

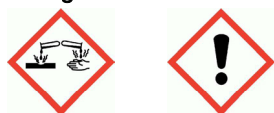
Environmental hazards Not Classified

Human health Corrosive. Prolonged contact causes serious eye and tissue damage.

Environmental The product contains a substance which may have hazardous effects on the environment.

2.2. Label elements

Pictogram



Signal word Danger

Hazard statements
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

Uncured components: All risk statements refer to unmixed product. Users should check MSDS for resin before mixing and be aware that, once resin and hardener are mixed and cured, product is inert.

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Precautionary statements

P260 Do not breathe vapour/ spray.
 P261 Avoid breathing vapour/ spray.
 P264 Wash contaminated skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P301+P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 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.
 P310 Immediately call a POISON CENTER/ doctor.
 P321 Specific treatment (see medical advice on this label).
 P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P363 Wash contaminated clothing before reuse.
 P405 Store locked up.
 P501 Dispose of contents/ container in accordance with national regulations.

Contains

BENZYL ALCOHOL, ISOPHORONEDIAMINE, Trimethylhexamethyldiamine

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

BENZYL ALCOHOL			10-30%
CAS number: 100-51-6	EC number: 202-859-9	REACH registration number: 01-2199492630-38-0000	
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H332 Eye Irrit. 2 - H319			

Trimethylhexamethyldiamine			10-30%
CAS number: 25513-64-8	EC number: 247-063-2	REACH registration number: 01-2119560598-25-0000	
Classification Acute Tox. 4 - H302 Skin Corr. 1A - H314 Eye Dam. 1 - H318 Skin Sens. 1A - H317			

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ISOPHORONEDIAMINE		10-30%
CAS number: 2855-13-2	EC number: 220-666-8	REACH registration number: 01-2119514687-32-0000
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H312 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Aquatic Chronic 3 - H412		

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air at once. If breathing stops, provide artificial respiration. Keep affected person warm and at rest. Get medical attention immediately.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Do not induce vomiting. Remove affected person from source of contamination. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical attention immediately. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
Skin contact	Remove affected person from source of contamination. Remove contaminated clothing immediately and wash skin with soap and water. Do not use organic solvents Get medical attention if any discomfort continues.
Eye contact	Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

General information	Seek medical attention in case of contact with skin and eyes or inhalation or ingestion.
Inhalation	Harmful effects from inhalation.
Ingestion	Harmful effects in ingested.
Skin contact	Prolonged skin contact may cause redness and irritation. May cause sensitisation by skin contact.
Eye contact	Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.

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

Notes for the doctor	No recommendation give, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY! If necessary , administer activated charcoal (10-20g) and sodium sulfate (20g)
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Carbon dioxide (CO2). Foam. Water spray, fog or mist.
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Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards The product is flammable. Heating may generate flammable vapours. Fire creates: Vapours/gases/fumes of: Ammonia or amines. Carbon monoxide (CO). Carbon dioxide (CO₂). Nitric acid (HNO₃). Phosphorus. The product is highly flammable. May ignite at high temperature. Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapours.

Hazardous combustion products Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Vapours/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂). Nitric acid (HNO₃). Ammonia or amines.

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Keep up-wind to avoid fumes. Ventilate closed spaces before entering them. Containers close to fire should be removed or cooled with water. Keep unnecessary and unprotected personnel from entering the area. Use water mist to cool any containers

Special protective equipment for firefighters Wear chemical protective suit. Use air-supplied respirator, gloves and protective goggles.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with eyes. Wear protective clothing as described in Section 8 of this safety data sheet. Wear protective gloves. Avoid inhalation of vapours and contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Do not touch or walk into spilled material. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Absorb in vermiculite, dry sand or earth and place into containers. Wash thoroughly after dealing with a spillage. Avoid the spillage or runoff entering drains, sewers or watercourses. Inform authorities if large amounts are involved.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep only in the original container.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

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SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

BENZYL ALCOHOL (CAS: 100-51-6)

DNEL

Workers - Dermal; : 9.5 mg/kg
 Workers - Inhalation; : 90 mg/m³
 Consumer - Oral; Short term systemic effects: 25 mg/kg/day
 Consumer - Oral; Long term systemic effects: 5 mg/kg/day
 Workers - Inhalation; Short term systemic effects: 450 mg/m³
 Consumer - Inhalation; Short term systemic effects: 95.5 mg/m³
 Workers - Dermal; Short term systemic effects: 47 mg/kg/day
 Consumer - Dermal; Short term systemic effects: 28.5 mg/kg/day
 Consumer - Dermal; Long term systemic effects: 5.7 mg/kg/day

PNEC

- Soil; 0.456 mg/kg
 - STP; 39 mg/l
 - Sediment; 5.27 mg/kg
 - Sediment, Marine water; 0.527 mg/kg
 - Intermittent release; 2.3 mg/l
 - Fresh water; 1 mg/l
 - Marine water; 0.1 mg/l

ISOPHORONEDIAMINE (CAS: 2855-13-2)

DNEL

General population - Oral; Long term systemic effects: 0.526 mg/kg

PNEC

- Fresh water; 0.06 mg/l
 - Marine water; 0.006 mg/l
 - Water, Intermittent release; 0.23 mg/l
 - Fresh water, Sediment; 5.784 mg/kg
 - Marine water, Sediment; 0.578 mg/kg
 - Soil; 1.121 mg/kg
 - STP; 3.18 mg/l

Trimethylhexamethyldiamine (CAS: 25513-64-8)

PNEC

- Fresh water; 0.0295 mg/l
 - Marine water; 0.00295 mg/l
 - Intermittent release; 0.295 mg/l
 - Fresh water, Sediment; 0.18 mg/kg
 - Marine water, Sediment; 0.018 mg/kg
 - Soil; 0.019 mg/kg
 - STP; 72 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

No specific ventilation requirements. This product must not be handled in a confined space without adequate ventilation.

Eye/face protection

The following protection should be worn: Chemical splash goggles.

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Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.
Other skin and body protection	AVOID ALL SKIN AND RESPIRATORY CONTACT! Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures	Provide eyewash station. Do not smoke in work area. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.
Respiratory protection	No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

SECTION 9: Physical and Chemical Properties**9.1. Information on basic physical and chemical properties**

Appearance	Viscous liquid.
Colour	Amber.
Odour	Ammonia.
pH	pH (concentrated solution): 11
Initial boiling point and range	>200°C @ 760 mm Hg
Flash point	>100°C CC (Closed cup).
Relative density	1.020 @ °C
Partition coefficient	Not available.
Viscosity	12.0 P @ 25°C

9.2. Other information

Other information	Not known.
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SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity	Reactions with the following materials may generate heat: Rubber or plastic. Plastics or coatings may be corroded. Avoid the following conditions: Heat (temperatures above flash point) , sparks , ignition points , flames , static electricity.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Does not decompose when used and stored as recommended.
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10.4. Conditions to avoid

Conditions to avoid	Avoid contact with the following materials: Acids. Oxidising agents.
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10.5. Incompatible materials

Materials to avoid	Strong acids. Strong oxidising agents. Copper. Zinc. Nickel. Alcohols. Aldehydes. Ketones. Halogenated hydrocarbons.
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10.6. Hazardous decomposition products

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Hazardous decomposition products Heating may generate the following products: Vapours/gases/fumes of: Carbon dioxide (CO₂). Carbon monoxide (CO).

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

Toxicological effects No information available.

Acute toxicity - oral

Notes (oral LD₅₀) Not available.

ATE oral (mg/kg) 833.33

Acute toxicity - dermal

ATE dermal (mg/kg) 5,500.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Not available.

ATE inhalation (gases ppm) 22,500.0

ATE inhalation (vapours mg/l) 55.0

ATE inhalation (dusts/mists mg/l) 7.5

Serious eye damage/irritation

Serious eye damage/irritation Not available.

Germ cell mutagenicity

Genotoxicity - in vitro Not available.

Genotoxicity - in vivo Not available.

Carcinogenicity

Carcinogenicity Not available.

Reproductive toxicity

Reproductive toxicity - fertility Not available.

Reproductive toxicity - development Not available.

Specific target organ toxicity - single exposure

STOT - single exposure Not available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not available.

Inhalation Harmful by inhalation.

Ingestion Harmful if swallowed.

Skin contact May cause sensitisation by skin contact. Harmful in contact with skin. Causes burns.

Eye contact Irritating to eyes.

Route of entry Inhalation Ingestion. Skin and/or eye contact

Toxicological information on ingredients.

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BENZYL ALCOHOL**Acute toxicity - oral**Notes (oral LD₅₀) LD₅₀ >2000 mg/kg, Oral, Rat**Acute toxicity - inhalation**Notes (inhalation LC₅₀) LD₅₀ >4.178 mg/l, Inhalation, Rat**Germ cell mutagenicity**

Genotoxicity - in vitro Does not contain any substances known to be mutagenic.

Genotoxicity - in vivo Does not contain any substances known to be mutagenic.

Carcinogenicity

Carcinogenicity Does not contain any substances known to be carcinogenic.

Trimethylhexamethyldiamine**Acute toxicity - oral**

ATE oral (mg/kg) 500.0

Serious eye damage/irritation

Serious eye damage/irritation Corrosive to skin. Corrosivity to eyes is assumed.

Germ cell mutagenicity

Genotoxicity - in vitro Does not contain any substances known to be mutagenic.

Carcinogenicity

Carcinogenicity Not determined.

Specific target organ toxicity - single exposure

STOT - single exposure No information required.

ISOPHORONEDIAMINE**Acute toxicity - oral**Notes (oral LD₅₀) LD₅₀ 1,300 mg/kg, Oral, Rat**Acute toxicity - dermal**Notes (dermal LD₅₀) LD₅₀ >2000 mg/kg, Dermal, Rat**Acute toxicity - inhalation**Notes (inhalation LC₅₀) LC₅₀ >5.01 mg/l, Aerosol., Inhalation, Rat**SECTION 12: Ecological Information**

Ecotoxicity Dangerous for the environment. May cause long-term adverse effects in the aquatic environment.

12.1. Toxicity

Acute toxicity - fish Not available.

Acute toxicity - aquatic invertebrates Not available.

Acute toxicity - aquatic plants Not available.

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Acute toxicity - microorganisms Not available.

Ecological information on ingredients.

BENZYL ALCOHOL

Acute toxicity - fish	LC ₅₀ , 96 hours: 460 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 230 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC ₅₀ , 72 hours: 770 mg/l, Algae
Acute toxicity - microorganisms	IC ₅₀ , 24 hours: 390 mg/l, Bacteria

Trimethylhexamethyldiamine

Acute toxicity - fish	LC ₅₀ , 48 hours: 174 mg/l, Leuciscus idus (Golden orfe)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 24 hours: 31.5 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EbC ₅₀ , 72 hours: 29.5 mg/l, Scenedesmus subspicatus
Acute toxicity - microorganisms	EC ₅₀ , 17 hours: 89 mg/l, Activated sludge

ISOPHORONEDIAMINE

Acute toxicity - fish	LC ₅₀ , 96 hours: 110 mg/l, Leuciscus idus (Golden orfe)
Acute toxicity - aquatic invertebrates	NOEC, 21 days: 3 mg/l, Daphnia magna
Acute toxicity - aquatic plants	ErC ₅₀ , 72 hours: >50 mg/l, Algae

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Ecological information on ingredients.

BENZYL ALCOHOL

Persistence and degradability	The product is readily biodegradable.
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Trimethylhexamethyldiamine

Persistence and degradability	The product is not biodegradable.
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ISOPHORONEDIAMINE

Persistence and degradability	The product is not readily biodegradable.
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12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not available.

Ecological information on ingredients.

BENZYL ALCOHOL

Bioaccumulative potential Not relevant.

Trimethylhexamethyldiamine

Bioaccumulative potential No data available on bioaccumulation.

ISOPHORONEDIAMINE

Bioaccumulative potential log Pow: 0.99,

12.4. Mobility in soil

Mobility Not determined.

Ecological information on ingredients.

BENZYL ALCOHOL

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

BENZYL ALCOHOL

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Trimethylhexamethyldiamine

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

ISOPHORONEDIAMINE

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

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SECTION 14: Transport information**14.1. UN number**

UN No. (ADR/RID)	2735
UN No. (IMDG)	2735
UN No. (ICAO)	2735

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	POLYAMINES, LIQUID, CORROSIVE, N.O.S (Isophoronediamine + Trimethylhexamethyldiamine mixture)
Proper shipping name (IMDG)	POLYAMINES, LIQUID, CORROSIVE, N.O.S (Isophoronediamine + Trimethylhexamethyldiamine mixture)
Proper shipping name (ICAO)	POLYAMINES, LIQUID, CORROSIVE, N.O.S (Isophoronediamine + Trimethylhexamethyldiamine mixture)
Proper shipping name (ADN)	POLYAMINES, LIQUID, CORROSIVE, N.O.S (Isophoronediamine + Trimethylhexamethyldiamine mixture)

14.3. Transport hazard class(es)

ADR/RID class	8
ADR/RID label	8
IMDG class	8
ICAO class/division	8

Transport labels**14.4. Packing group**

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-A, S-B
Emergency Action Code	3X
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78
and the IBC Code

SECTION 15: Regulatory information

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

National regulations	The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
EU legislation	Dangerous Preparations Directive 1999/45/EC. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Guidance	Workplace Exposure Limits EH40. CHIP for everyone HSG228. Safety Data Sheets for Substances and Preparations. Approved Classification and Labelling Guide (Sixth edition) L131.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

General information	Only trained personnel should use this material.
Revision date	31/03/2017
Revision	8
Supersedes date	04/08/2016
Hazard statements in full	H302 Harmful if swallowed. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. H412 Harmful to aquatic life with long lasting effects.

Uncured Components: All risk statements refer to unmixed product components. Users should check MSDS for resin before mixing and be aware that, once resin and hardener are mixed and cured, product is inert.

Cured product: Cured epoxy products are inert and relatively harmless, traces of residual components may be left on the surface. Abrading will generate particles that should not be inhaled or ingested. Wet surfaces where possible before abrading. Provide ventilation, wear a suitable mask, gloves and cover exposed skin to prevent contact with the dust.

All information is based on results gained from experience and tests and is believed to be accurate but is given without acceptance of liability for loss or damage attributable to reliance thereon as conditions of use lie outside our control. Users should always carry out sufficient tests to establish the suitability of any products for their intended applications. All goods supplied subject to AIL General Conditions of sale.

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