

SAFETY DATA SHEET

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

Issue Date 21-Apr-2005 Revision Date 14-Feb-2023 Version 3

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code(s) 2368749

Product Name pPb-3 Eluant Solution

Unique Formula Identifier (UFI) 5APR-8FE0-S00S-DAC8

Molecular weight No data available

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

Recommended Use Water Analysis. Lead test reagent.

Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Supplier

HACH UK
Laser House
Ground Floor, Suite B
Waterfront Quay, Salford Quays
GB - Manchester, M50 3XW
Tel. +44 (0) 161 872 1487
info-uk@hach.com

HACH Ireland Unit 34 GB Business Park Little Island IRL-Co. Cork T45 H681

Tel. +353 (0)146 02 522 info-ie@hach.com

1.4. Emergency telephone number

UK: Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service IE: National Poisons Information Centre (NPIC) 01 809 2566 (24/7)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Serious eye damage/eye irritation Category 1 - (H318)

2.2. Label elements

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Contains Nitric acid <1%



Signal word Danger

Hazard statements

H318 - Causes serious eye damage

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear eye protection/ face protection

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 or doctor

2.3. Other hazards

No information available.

PBT & vPvE

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT) This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	CAS No. EC No. Index No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Nitric acid	7697-37-2 (007-004-00-1) (007-030-00-3) (078-012-00-0) 231-714-2 007-030-00-3	<1%	Ox. Liq. 3 - H272 Met. Corr. 1 - H290 Skin Corr. 1A - H314 Eye Dam. 1 - H318 Acute Tox. 3 - H331	Ox. Liq. 3 :: C>=65% Skin Corr. 1A :: C>=20% Skin Corr. 1B :: 5%<=C<20%	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate No information available

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Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contact Get immediate medical attention. Rinse immediately with plenty of water, also under the

eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue

rinsing. Keep eye wide open while rinsing. Do not rub affected area.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical

attention if irritation develops and persists.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce

vomiting. Call a doctor.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

Symptoms Burning sensation.

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

Note to doctors Treat symptomatically.

Section 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

surrounding environment.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the

chemical

Do not flush into surface water or sanitary sewer system.

Hazardous combustion products This material will not burn.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Use personal protection equipment.

Additional information Fire residues and contaminated fire extinguishing water must be disposed of in accordance

with local regulations.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

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6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not flush into surface water or

sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Neutralise with soda ash (sodium carbonate) or lime over area of spill. Take up

mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate

ventilation.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do

not eat, drink or smoke when using this product. Barrier creams may help to protect the

exposed areas of skin.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach

of children.

7.3. Specific end use(s)

Specific use(s) Analytical reagent.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Chemical name	European Union	United Kingdom	Ireland
Nitric acid	-	STEL: 1 ppm	STEL: 1 ppm
7697-37-2		STEL: 2.6 mg/m ³	STEL: 2.6 mg/m ³

Derived No Effect Level (DNEL)No information available.

Predicted No Effect Concentration No information available.

(PNEC)

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Additional information No information available.

8.2. Exposure controls

Engineering controlsTechnical measures and appropriate working operations should be given priority over the

use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific

workplace.

Personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves. Gloves must be inspected prior to use. The selected protective gloves

have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374-1:2016 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III

acco.

Gloves								
Duration of contact	PPE - Glove material	Glove thickness	Break through time					
Short term	Wear protective nitrile rubber gloves	0,20 mm	>30 minutes					
Long term (repeated)	Wear protective Viton™ gloves	0,70 mm	>480 minutes					

Skin and body protectionWear suitable protective clothing.

Respiratory protection Ensure adequate ventilation. No protective equipment is needed under normal use

conditions. If exposure limits are exceeded or irritation is experienced, ventilation and

evacuation may be required. Wear breathing apparatus if exposed to

vapours/dusts/aerosols.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do

not eat, drink or smoke when using this product. Barrier creams may help to protect the

exposed areas of skin.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state Liquid

Colour colourless Odour Odourless

Odour threshold No data available

Property Values Remarks • Method

Molecular weight No data available

pH 1.4 @ 20 °C

Melting point / freezing point -3 °C / 26.6 °F

Initial boiling point and boiling range 99 °C / 210.2 °F

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Evaporation rate 0.86 (water = 1)

Vapour pressure 17.477 mm Hg / 2.33 kPa at 20 °C / 68 °F

Relative vapor density 0.62

Specific Gravity 1.007

Partition coefficient Not applicable

Soil Organic Carbon-Water Partition

Coefficient

Not applicable

No data available

No data available **Autoignition temperature Decomposition temperature**

Dynamic viscosity ~ 1 cP (mPa s) at 20 °C / 68 °F

Kinematic viscosity ~ 0.993 cSt (mm²/s) at 20 °C / 68 °F

@ 20 °C 1.007 g/mL Relative density

Solubility(ies)

Water solubility

Water solubility classification	Water solubility_	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Na	meSolubility cla	ssification Solubility	Solubility Temperature
Acid	Soluk	ole > 1000 mg/	L 25 °C / 77 °F

Metal Corrosivity

Steel Corrosion Rate 2.9 mm/yr / 0.11 in/yr **Aluminum Corrosion Rate** 1.22 mm/yr / 0.05 in/yr

Explosive properties

No data available **Upper explosion limit** No data available Lower explosion limit

Flammable properties

Flash point No data available

Flammability

Upper flammability limit: No data available Lower flammability limit No data available

Oxidising properties No data available.

No data available **Bulk density**

9.2. Other information

No information available.

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Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions
None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Incompatible materials Bases.

10.6. Hazardous decomposition products

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met

Mixture No data available.

Substance No data available.

Acute Toxicity Estimate (ATE)

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Skin corrosion/irritation

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

Mixture No data available.

Substance Test data reported below.

dose time references and	Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and
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					sources for data
Nitric acid	Existing human experience	Human	None reported None reporte	Corrosive to skin	ERMA

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture No data available.

Substance Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Nitric acid	Existing human experience	Human	None reported	None reported	Corrosive to eyes	ERMA

Respiratory or skin sensitisation

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

Mixture No data available.

Substance No data available.

STOT - single exposure

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

Mixture No data available.

Substance Test data reported below.

Dermal Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid	Rat	226500 mg/kg	None reported	Blood	RTECS
	TDLo			Methemoglobinemia-Carboxyhe	
				moglobin	

Inhalation (Vapor) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid	Rat TC∟₀	460 mg/L	1 hours	Nutritional and Gross Metabolic Weight loss or decreased weight gain	RTECS

STOT - repeated exposure

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

Mixture No data available.

Substance Test data reported below.

Inhalation (Vapor) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid	Rat	0.001071	84 days	Behavioral	RTECS

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TCLo	mg/L	Muscle contraction or spasticity
		Biochemical
		Enzyme inhibition, induction, or
		change in blood or tissue levels
		(true cholinesterase)
		Kidney, Ureter, or Bladder
		Other changes in urine
		composition

Germ cell mutagenicity

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

Mixture invitro **Data** No data available.

Substance invitro **Data** No data available.

Mixture invivo **Data**No data available.

Substance invivo **Data** No data available.

Carcinogenicity

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

Mixture No data available.

Substance No data available.

Reproductive toxicity

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

Mixture No data available.

Substance Test data reported below.

Oral Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid	Rat	21150 mg/kg	21 days	Effects on Embryo or Fetus	RTECS
	TDLo		-	Fetotoxicity (except death e.g.	
				stunted fetus)	

Aspiration hazard

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

11.2 Information on other hazards

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

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

Unknown aquatic toxicityContains 0 % of components with unknown hazards to the aquatic environment.

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Mixture

Acute aquatic toxicity: No data available.

Aquatic Chronic Toxicity: No data available.

Substance

Acute aquatic toxicity: No data available.

Aquatic Chronic Toxicity: No data available.

12.2. Persistence and degradability

Mixture No data available.

12.3. Bioaccumulative potential

Mixture: No data available.

Partition coefficient Not applicable

12.4. Mobility in soil

Soil Organic Carbon-Water Partition Not applicable

Coefficient

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

Chemical name	PBT and vPvB assessment	
Nitric acid	The substance is not PBT / vPvB	

12.6. Endocrine disrupting properties

Endocrine Disruptor Information: This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

No information available.

Ozone: Not applicable

Ozone depletion potential (ODP): No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Advice on Disposal

Waste from residues/unused Dispose of in a

products

Dispose of in accordance with local regulations. Dispose of waste in accordance with

environmental legislation.

Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and

discarded chemicals; laboratory chemicals, consisting of or containing hazardous

substances, including mixtures of laboratory chemicals; hazardous waste.

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Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and

discarded chemicals; laboratory chemicals, consisting of or containing hazardous

substances, including mixtures of laboratory chemicals; hazardous waste.

Contaminated packaging Dispose of contents/containers in accordance with local regulations.

Other Information Waste codes should be assigned by the user based on the application for which the product

was used.

Section 14: TRANSPORT INFORMATION

IMDG

14.1 UN number or ID numberNot regulated14.2 Proper shipping nameNot regulated14.3 Transport hazard class(es)Not regulated14.4 Packing GroupNot regulated14.5 Marine pollutantNot applicable

14.6 Special precautions for user See section 6-8 for more information

14.7. Transport in bulk according to Not applicable

Annex II of MARPOL and the IBC

Code

ADR

14.1 UN number or ID number
14.2 Proper shipping name
14.3 Transport hazard class(es)
14.4 Packing Group
14.5 Environmental hazards
Not regulated Not regulated Not applicable

14.6 Special precautions for user See section 6-8 for more information

IATANot regulated14.1 UN number or ID numberNot regulated14.2 Proper shipping nameNot regulated14.3 Transport hazard class(es)Not regulated14.4 Packing groupNot regulated14.5 Environmental hazardsNot applicable

14.6 Special precautions for user See section 6-8 for more information

Additional information

Section 15: REGULATORY INFORMATION

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

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH	Substance subject to authorisation per

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	Annex XVII	REACH Annex XIV
Nitric acid - 7697-37-2	75.	

Persistent Organic Pollutants

Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

Non-controlled

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Germany

Water hazard class (WGK) non-hazardous to water (nwg)

International Inventories

EINECS/ELINCS Complies Complies **TSCA DSL/NDSL** Complies Complies **ENCS** Complies **IECSC** Complies **KECL - Existing substances PICCS** Complies Complies **AICS**

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

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

Section 16: OTHER INFORMATION

Issue Date 21-Apr-2005

Revision Date 14-Feb-2023

Revision Note New SDS, SDS sections updated, 3, 9, 11, 12.

Key or legend to abbreviations and acronyms used in the safety data sheet

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Legend

** Hazard Designation

ADN Accord européen relatif au transport international des marchandises dangereuses par voies

de navigation intérieure

ADR European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE Acute Toxicity Estimate

CAS Chemical Abstracts Service Number

Ceiling Maximum limit value

CLP Classification, Labelling and Packaging of substances and mixtures [Regulation (EC) No.

1272/20081

DNEL Derived No Effect Level (DNEL)

EC European Community

ECHA (The European Chemicals Agency)

EC50 Effective Concentration to 50% of a test population

EEC European Economic Community

EN European Standard

IMDG International Maritime Dangerous Goods (IMDG)
IATA International Air Transport Association (IATA)

IATA-DGR International Air Transport Association - Dangerous Goods Regulations

ICAO International Civil Aviation Organization

ICAO-TI International Civil Aviation Organization - Technical Instructions
IUCLID IUCLID (The International Uniform Chemical Information Database)
GHS Globally Harmonized System of Classification and Labelling of Chemicals

LOAEL Lowest observed adverse effect level

LOAEC Lowest observed adverse effect concentration LC50 Lethal Concentration to 50% of a test population

LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)
LOLI LOLI (List of Lists - An International Chemical Regulatory Database)

MAK Maximale Arbeitsplatz-Konzentration, a German expression corresponding to threshold limit

value, which relates to safe daily exposure levels to chemical substances

NOAEL NOAEL (No observed adverse effect level)
NOAEC No observed adverse effect concentration

OSHA (Occupational Safety and Health Administration of the US Department of Labour)

PEC Predicted Effect Concentration

PNEC Predicted No Effect Concentration (PNEC)

PBT Persistent, Bioaccumulative, and Toxic (PBT) Chemicals

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals [Regulation (EC) No.

1907/2006])

RID Règlement international concernant le transport des marchandises dangereuses par chemin

de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

RTECS RTECS (Registry of Toxic Effects of Chemical Substances)

TWA TWA (time-weighted average)

SKN* Skin designation SKN+ Skin sensitisation

STEL STEL (Short Term Exposure Limit)
STOT Specific Target Organ Toxicity

STOT RE Specific target organ toxicity — repeated exposure STOT SE Specific target organ toxicity — single exposure

SVHC Substances of Very High Concern

TLV Threshold Limit Value

TRGS Technical rules for hazardous substances, Germany

TSCA Toxic Substances Control Act

UN United Nations

vPvB very persistent and very bioaccumulative

VOC Volatile organic compounds

AwSV Administrative regulation of water polluting substances, Germany

Key literature references and sources for data See Section 11: TOXICOLOGICAL INFORMATION

See Section 12: ECOLOGICAL INFORMATION

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Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	On basis of test data
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration toxicity	Calculation method
Ozone	Calculation method

Full text of H-Statements referred to under section 3

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage H290 - May be corrosive to metals

Training Advice Take note of Directive 98/24/EC on the protection of the health and safety of workers from

the risks related to chemical agents at work

Restrictions on use For Laboratory Use Only.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

End of Safety Data Sheet

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