

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Product name : Bonasystems Main
UFI : 72T2-30JV-300X-5R06

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Industrial/Professional use spec : For professional use only
Use of the substance/mixture : Cleaning Product

1.2.2. Uses advised against

Restrictions on use : Anything other than intended use as listed on the label.

1.3. Details of the supplier of the safety data sheet

Bonasystems Europe Ltd
Unit B
Fourth Dimension
Fourth Avenue
Letchworth Garden City
SG6 2TD
Tel: 01442 927100
Fax: 01442 927111
E-mail: info@bonasystems.com

1.4. Emergency telephone number

Emergency number : 01442 927100
Office hours only.

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin corrosion/irritation, Category 1, Sub-Category 1B H314
Serious eye damage/eye irritation, Category 1 H318
Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects

Causes severe skin burns and eye damage. Causes serious eye damage.

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

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) : Danger
Contains : Ammonium bifluoride; Alcohols c9-11, ethoxylated
Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.

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Precautionary statements (CLP) : P280 - Wear eye protection, face protection, protective clothing, protective gloves.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 - Immediately call a POISON CENTER or doctor.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ammonium bifluoride	(CAS-No.) 1341-49-7 (EC-No.) 215-676-4 (EC Index-No.) 009-009-00-4 (REACH-no) 01-2119489180-38	≥ 1 – < 10	Acute Tox. 3 (Oral), H301 Skin Corr. 1B, H314 Aquatic Chronic 1, H410
2-butoxyethanol	(CAS-No.) 111-76-2 (EC-No.) 203-905-0 (EC Index-No.) 603-014-00-0	≥ 1 – < 10	Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Irrit. 2, H315
Alcohols c9-11, ethoxylated	(CAS-No.) 68439-46-3 (EC-No.) 614-482-0 (REACH-no) Exempt	≥ 1 – < 10	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
Magnesium Silicofluoride Hexahydrate	(CAS-No.) 18972-56-0 (REACH-no) 01-2119980031-47	< 1	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Inhalation), H332 Eye Dam. 1, H318 Aquatic Chronic 3, H412

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Ammonium bifluoride	(CAS-No.) 1341-49-7 (EC-No.) 215-676-4 (EC Index-No.) 009-009-00-4 (REACH-no) 01-2119489180-38	(0.1 ≤C < 1) Skin Irrit. 2, H315 (0.1 ≤C < 1) Eye Irrit. 2, H319 (1 ≤C < 100) Skin Corr. 1B, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

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First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.
Incompatible products : Oxidizing agent. Strong bases. Strong acids.
Special rules on packaging : Keep only in original container. Store in a closed container.

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7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-butoxyethanol (111-76-2)	
EU - Occupational Exposure Limits	
Local name	2-Butoxyethanol
IOELV TWA (mg/m ³)	98 mg/m ³
IOELV TWA (ppm)	20 ppm
IOELV STEL (mg/m ³)	246 mg/m ³
IOELV STEL (ppm)	50 ppm
Notes	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Ireland - Occupational Exposure Limits	
Local name	2-Butoxyethanol (EGBE) [Ethylene glycol monobutyl ether]
OEL (8 hours ref) (mg/m ³)	98 mg/m ³
OEL (8 hours ref) (ppm)	20 ppm
OEL (15 min ref) (mg/m ³)	246 mg/m ³
OEL (15 min ref) (ppm)	50 ppm
Notes (IE)	Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2020
United Kingdom - Occupational Exposure Limits	
Local name	2-Butoxyethanol
WEL TWA (mg/m ³)	123 mg/m ³
WEL TWA (ppm)	25 ppm
WEL STEL (mg/m ³)	246 mg/m ³
WEL STEL (OEL STEL) [ppm]	50 ppm
Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
United Kingdom - Biological limit values	
Local name	2-Butoxyethanol
United Kingdom (BEI)	240 mmol/mol Creatinine Parameter: butoxyacetic acid - Medium: urine - Sampling time: Post shift
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

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Hand protection:

Chemical resistant gloves (according to European standard EN 374 or equivalent)

Eye protection:

Safety glasses. Use eye protection according to EN 166.

Skin and body protection:

Chemical resistant apron

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: light blue.
Odour	: Apple.
Odour threshold	: No data available
pH	: 4 – 7
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 60 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.01 – 1.03
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Ammonium bifluoride (1341-49-7)

LD50 oral rat	130 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
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Alcohols c9-11, ethoxylated (68439-46-3)

LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 1.6 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

2-butoxyethanol (111-76-2)

LD50 oral rat	1746 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1322 - 2301
LD50 oral	1414 mg/kg bodyweight Animal: guinea pig, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1020 - 1961
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation : Causes severe skin burns.
pH: 4 – 7
Serious eye damage/irritation : Causes serious eye damage.
pH: 4 – 7
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

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STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Alcohols c9-11, ethoxylated (68439-46-3)

NOAEL (oral, rat, 90 days)	≥ 500 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
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2-butoxyethanol (111-76-2)

NOAEL (dermal, rat/rabbit, 90 days)	> 150 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
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Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified
Not rapidly degradable

Ammonium bifluoride (1341-49-7)

LC50 fish 1	421.4 mg/l Test organisms (species): no data
NOEC chronic fish	1.2 mg/l Test organisms (species): Oncorhynchus gorbuscha Duration: '61 d'

2-butoxyethanol (111-76-2)

LC50 fish 1	1474 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 Daphnia 1	≈ 1800 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	911 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h algae (2)	1840 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '21 d'

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

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12.6. Other adverse effects

No additional information available






SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 2817	UN 2817	UN 2817	UN 2817	UN 2817
14.2. UN proper shipping name				
AMMONIUM HYDROGENDIFLUORIDE SOLUTION	AMMONIUM HYDROGENDIFLUORIDE SOLUTION	Ammonium hydrogendifluoride solution	AMMONIUM HYDROGENDIFLUORIDE SOLUTION	AMMONIUM HYDROGENDIFLUORIDE SOLUTION
Transport document description				
UN 2817 AMMONIUM HYDROGENDIFLUORIDE SOLUTION, 8 (6.1), II, (E)	UN 2817 AMMONIUM HYDROGENDIFLUORIDE SOLUTION, 8 (6.1), II	UN 2817 Ammonium hydrogendifluoride solution, 8 (6.1), II	UN 2817 AMMONIUM HYDROGENDIFLUORIDE SOLUTION, 8 (6.1), II	UN 2817 AMMONIUM HYDROGENDIFLUORIDE SOLUTION, 8 (6.1), II
14.3. Transport hazard class(es)				
8 (6.1)	8 (6.1)	8 (6.1)	8 (6.1)	8 (6.1)
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR) : CT1
Limited quantities (ADR) : 1I
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P001, IBC02
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T8
Portable tank and bulk container special provisions (ADR) : TP2
Tank code (ADR) : L4DH
Tank special provisions (ADR) : TU14, TE21
Vehicle for tank carriage : AT
Transport category (ADR) : 2

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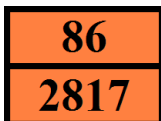
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Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28

Hazard identification number (Kemler No.) : 86

Orange plates :



Tunnel restriction code (ADR) : E

EAC code : 2X

Transport by sea

Packing instructions (IMDG) : P001

IBC packing instructions (IMDG) : IBC02

IBC special provisions (IMDG) : B20

Tank instructions (IMDG) : T8

Tank special provisions (IMDG) : TP2, TP13

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

Stowage category (IMDG) : B

Stowage and handling (IMDG) : SW2

Properties and observations (IMDG) : Colourless liquid. Miscible with water. Highly corrosive to most metals and glass. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA) : E2

PCA Limited quantities (IATA) : Y840

PCA limited quantity max net quantity (IATA) : 0.5L

PCA packing instructions (IATA) : 851

PCA max net quantity (IATA) : 1L

CAO packing instructions (IATA) : 855

CAO max net quantity (IATA) : 30L

Special provisions (IATA) : A3, A803

ERG code (IATA) : 8P

Inland waterway transport

Classification code (ADN) : CT1

Special provisions (ADN) : 802

Limited quantities (ADN) : 1 L

Excepted quantities (ADN) : E2

Equipment required (ADN) : PP, EP

Number of blue cones/lights (ADN) : 2

Rail transport

Classification code (RID) : CT1

Limited quantities (RID) : 1L

Excepted quantities (RID) : E2

Packing instructions (RID) : P001, IBC02

Mixed packing provisions (RID) : MP15

Portable tank and bulk container instructions (RID) : T8

Portable tank and bulk container special provisions (RID) : TP2

Tank codes for RID tanks (RID) : L4DH

Special provisions for RID tanks (RID) : TU14, TE17, TE21, TT4

Transport category (RID) : 2

Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28

Colis express (express parcels) (RID) : CE6

Hazard identification number (RID) : 86

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

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet

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vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Full text of H- and EUH-statements:	
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.