

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

Product form : Mixture
Product name : Bonasystems Clean
UFI : DVS2-3062-G00Y-U1U2

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]**

Corrosive to metals, Category 1 H290
Skin corrosion/irritation, Category 1 H314
Serious eye damage/eye irritation, Category 1 H318
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411
Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects

May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. Toxic to aquatic life with long lasting effects.

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

Hazard pictograms (CLP) :



GHS05

GHS09

Signal word (CLP) : Danger
Contains : nitric acid ... %
Hazard statements (CLP) : H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H411 - Toxic to aquatic life with long lasting effects.

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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.
P310 - Immediately call a POISON CENTER or doctor.
P391 - Collect spillage.

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]
nitric acid ... %	(CAS-No.) 7697-37-2 (EC-No.) 231-714-2 (EC Index-No.) 007-004-00-1 (REACH-no) 01-2119487297-23	≥ 1 – < 10	Ox. Liq. 2, H272 Skin Corr. 1A, H314
Zinc Silicofluoride	(CAS-No.) 16871-71-9 (EC-No.) 240-894-1	≥ 1 – < 10	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 1, H410
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
2-butoxyethanol substance with a Community workplace exposure limit	(CAS-No.) 111-76-2 (EC-No.) 203-905-0 (EC Index-No.) 603-014-00-0	< 1	Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Irrit. 2, H315

Specific concentration limits:

Name	Product identifier	Specific concentration limits
nitric acid ... %	(CAS-No.) 7697-37-2 (EC-No.) 231-714-2 (EC Index-No.) 007-004-00-1 (REACH-no) 01-2119487297-23	(5 ≤C < 20) Skin Corr. 1B, H314 (20 ≤C ≤ 65) Met. Corr. 1, H290 (20 ≤C ≤ 65) Skin Corr. 1A, H314 (65 ≤C < 100) Ox. Liq. 3, H272 (65 ≤C < 100) Met. Corr. 1, H290 (65 ≤C < 100) Skin Corr. 1A, 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.

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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.
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.
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5.2. Special hazards arising from the substance or mixture

Fire hazard	: May intensify fire; oxidiser.
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.
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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. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.
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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".
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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Collect spillage.
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
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.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.
- 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 in corrosive resistant container with a resistant inner liner. Keep only in original container. Store locked up. Store in a well-ventilated place. Keep cool.
- Incompatible products : Oxidizing agent. Strong bases. Strong acids.
- Incompatible materials : combustible materials. Metals.
- Special rules on packaging : Keep only in original container. Store in a closed container.

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

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2-butoxyethanol (111-76-2)

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.

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	: Colourless.
Odour	: Glycol ether.
Odour threshold	: No data available
pH	: < 2
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available

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Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.05 – 1.07
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

SECTION 10: Stability and reactivity

10.1. Reactivity

May intensify fire; oxidiser.

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

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Combustible materials. metals.

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

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: < 2
Serious eye damage/irritation	: Causes serious eye damage. pH: < 2
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified

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Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

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 : Toxic to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

Not rapidly degradable

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

12.6. Other adverse effects

No additional information available

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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 2031	UN 2031	UN 2031	UN 2031	UN 2031
14.2. UN proper shipping name				
NITRIC ACID	NITRIC ACID	Nitric acid	NITRIC ACID	NITRIC ACID
Transport document description				
UN 2031 NITRIC ACID, 8, II, (E), ENVIRONMENTALLY HAZARDOUS	UN 2031 NITRIC ACID, 8, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 2031 Nitric acid, 8, II, ENVIRONMENTALLY HAZARDOUS	UN 2031 NITRIC ACID, 8, II, ENVIRONMENTALLY HAZARDOUS	UN 2031 NITRIC ACID, 8, II, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: C1
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02
Special packing provisions (ADR)	: PP81, B15
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)	: L4BN
Tank special provisions (ADR)	: TU42
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Hazard identification number (Kemler No.)	: 80

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Orange plates



Tunnel restriction code (ADR)

: E

EAC code

: 2P

APP code

: B

Transport by sea

Packing instructions (IMDG)

: P001

Special packing provisions (IMDG)

: PP81

IBC packing instructions (IMDG)

: IBC02

IBC special provisions (IMDG)

: B15, B20

Tank instructions (IMDG)

: T8

Tank special provisions (IMDG)

: TP2

EmS-No. (Fire)

: F-A

EmS-No. (Spillage)

: S-B

Stowage category (IMDG)

: D

Segregation (IMDG)

: SG6, SG16, SG17, SG19

Properties and observations (IMDG)

: Colourless liquid. Oxidant; may cause fire in contact with organic materials such as wood, cotton or straw, evolving highly toxic gases (brown fumes). Highly corrosive to most metals. Causes severe 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

ERG code (IATA)

: 8L

Inland waterway transport

Classification code (ADN)

: C1

Limited quantities (ADN)

: 1 L

Excepted quantities (ADN)

: E2

Equipment required (ADN)

: PP, EP

Number of blue cones/lights (ADN)

: 0

Rail transport

Classification code (RID)

: C1

Limited quantities (RID)

: 1L

Excepted quantities (RID)

: E2

Packing instructions (RID)

: P001, IBC02

Special packing provisions (RID)

: PP81, B15

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)

: L4BN

Special provisions for RID tanks (RID)

: TU42

Transport category (RID)

: 2

Colis express (express parcels) (RID)

: CE6

Hazard identification number (RID)

: 80

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

Not applicable

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

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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
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

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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
Met. Corr. 1	Corrosive to metals, Category 1
Ox. Liq. 2	Oxidising Liquids, Category 2
Ox. Liq. 3	Oxidising Liquids, Category 3
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
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.
H411	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.