[redacted]

SAFETY DATA SHEET

[in accordance with the criteria of Regulation no 1907/2006 (REACH) as amended]

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

1.1 Product identifier

GUN CLEANER

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

Relevant identified uses: cleaning agent, removes deposits and other impurities (carbon, dust, carbon deposits, etc.).

Uses advised against: not determined.

1.3 Details of the supplier of the safety data sheet

Supplier: [redacted]

Address:

Telephone number:

E-mail address for a competent person responsible for SDS: [redacted]

1.4 Emergency telephone number

112

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Skin Irrit. 2 H315, **Eye Dam. 1** H318

Causes skin irritation. Causes serious eye damage.

2.2 Label elements

Hazard pictograms and signal words

DANGER

Names of substances mentioned on the label

Contains: 2-aminoethanol.

Hazard statements

H315 Causes skin irritation.
H318 Causes serious eye damage.

Precautionary statements

P102 Keep out of reach of children.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of 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/doctor.
P501 Dispose of contents/container to properly labelled waste containers according to national law.

2.3 Other hazards

Substance does not meet criteria for PBT or vPvB in accordance with Annex XIII of Regulation REACH. The components of the mixture are not identified as having endocrine disrupting properties.

[redacted]

SAFETY DATA SHEET

Section 3: Composition/information on ingredients

3.1 Substances

Not applicable.

3.2 Mixtures

CAS: 141-43-5 EC: 205-483-3 Index number: 603-030-00-8 Registration number: 01-2119486455-28-XXXX	2-aminoethanol[1,2] Acute Tox. 4 H302, Acute Tox. 4 H312, Skin Corr. 1B H314, Eye Dam. 1 H318, Acute Tox. 4 H332, STOT SE 335 Specific concentration limit: STOT SE 3 H335: C ≥ 5 %	< 5 %
CAS: 57-55-6 EC: 200-338-0 Index number: - Registration number: 01-2119456809-23-XXXX	1,2-propanodiol[1] the substance is not classified as hazardous	2,5-5 %
CAS: 111-76-2 EC: 203-905-0 Index number: 603-014-00-0 Registration number: 01-2119475108-36-XXXX	2-butoxyethanol[1,2] Acute Tox. 4 H302, Skin Irrit. 2 H315, Eye Irrit. 2 H319, Acute Tox. 3 H331 inhalation: ATE = 3 mg/L (Vapours) oral: ATE = 1 200 mg/kg bw	2,5-5 %

1) Substance with occupational exposure limits defined on the national level.

2) Substance with occupational exposure limits defined on the Community level.

Full text of each relevant H phrase is in chapter 16.

Section 4: First aid measures

4.1 Description of first aid measures

Skin contact: consult a doctor in case of any disturbing symptoms. Take off contaminated clothes. Thoroughly wash the exposed skin areas with soap and water.

Eye contact: seek medical advice immediately. Protect non-irritated eye, remove any contact lenses. Wash out with plenty of water for 10-15 min. Avoid strong stream of water – risk of damage of the cornea. Put on a sterile dressing.

Ingestion: rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a doctor, show the packaging or label.

Inhalation: remove the victim to fresh air, keep warm and calm. Consult a doctor if disturbing symptoms appear.

4.2 Most important symptoms and effects, both acute and delayed

Eye contact: possible redness, tearing, burning sensation, pain, risk of eye damage.

Skin contact: prolonged contact may cause skin dryness, cracking, irritation.

Inhalation: high concentration of vapours may cause nausea, dizziness, drowsiness, coordination disorders

Ingestion: may cause abdominal pain, nausea, vomiting.

4.3 Indication of any immediate medical attention and special treatment needed

Physician makes a decision regarding further medical treatment after thoroughly examination of the injured. Treat symptomatically.

Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: CO_2,extinguishing powders, alcohol-resistant foam, water spray.

Unsuitable extinguishing media: water jet – risk of the propagation of the flame.

5.2 Special hazards arising from the substance or mixture

During the fire, the product may produce harmful gases containing, e.g. carbon oxides and other unidentified thermal decomposition products. Do not inhale combustion products, they can be dangerous for human health.

5.3 Advice for firefighters

Personal protection typical in case of fire. Do not stay in the fire zone without self-contained breathing apparatus and protective clothing resistant to chemicals. In case of fire cool endangered containers with water spray from safe distance. Collect used extinguishing media.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Limit the access for the outsiders into the breakdown area, until the suitable cleaning operations are completed. In case of large spills, isolate the exposed area. Ensure that removing the problem and its results is conducted by a trained personnel only. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin and eyes.

6.2 Environmental precautions

Do not allow the mixture to get into surface waters and soil. In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment. Notify relevant emergency services.

6.3 Methods and material for containment and cleaning up

Absorb leakage with liquid absorbing materials (e.g. sand, earth, universal binding agents) and place it in labeled containers. Bank up larger spills and pump them out. Treat collected material as waste. Clean and ventilate the contaminated area well.

6.4 Reference to other sections

Appropriate conduct with waste product – see section 13. Personal protective equipment – see section 8.

Section 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices. Ensure adequate ventilation, do not inhale the vapours of the product. Avoid contact with skin and eyes. Keep unused containers tightly closed. Do not allow vapours to concentrate in the air and to create concentrations within the limits of explosive properties or exceeding the OEL. Use personal protection measures.

7.2 Conditions for safe storage, including any incompatibilities

Store only in original, tightly closed containers, in a dry and well-ventilated place. Do not store with incompatible materials (see subsection 10.5). Keep away from food, beverages or feed for animals. Avoid direct sunlight. Containers that have been opened must be resealed and stored in an upright position to prevent product leakage.

7.3 Specific end use(s)

No information about other uses than those mentioned in subsection 1.2.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Specification	TWA 8 hour	STEL 15 min
1,2-propanodiol [CAS 57-55-6] total vapour and particulates particulates	 474 mg/m^3 10 mg/m^3	 - -
2-aminoethanol [CAS 141-43-5]	2,5 mg/m^3	7,6 mg/m^3
2-butoxyethanol [CAS 111-76-2]	123 mg/m^3	246 mg/m^3

Legal basis: EH40/2005 (Fourth Edition 2020)

Recommended control procedures

Procedures concerning the control over the dangerous components concentrations in the air and control over the air quality in the workplace – if they are available and justified for the position – in accordance with the European Standards, with the conditions within the exposure place and a proper test methodology adapted to the working conditions.

DNEL

2-aminoethanol [CAS 141-43-5]

Worker, skin, long-term exposure, systemic effects:	1 mg/kg body weight/day
Worker, inhalation, long-term exposure, local effects	3,3 mg/m^3
Consumer, oral, long-term exposure, systemic effects:	3,75 mg/kg body weight/day
Consumer, skin, long-term exposure, systemic effects:	0,24 mg/kg body weight/day
Consumer, inhalation, long-term exposure, systemic effects:	2 mg/m^3
Consumer, inhalation, long-term exposure, local effects:	2 mg/m^3

1,2-propanodiol [CAS 57-55-6]

Worker, inhalation, long-term exposure, local effects:	10 mg/m^3
Worker, inhalation, long-term exposure, systemic effects:	168 mg/m^3
Consumer, inhalation, long-term exposure, systemic effects:	20 mg/m^3
Consumer, inhalation, long-term exposure, local effects:	10 mg/m^3

PNEC

2-aminoethanol [CAS 141-43-5]

freshwater	0,085 mg/l
marine water	0,0085 mg/l
freshwater sediment	0,425 mg/kg
marine water sediment	0,0425 mg/l
soil	0,035 mg/kg
STP	100 mg/l

1,2-propanodiol [CAS 57-55-6]

freshwater	260 mg/l
marine water	26 mg/l
freshwater sediment	572 mg/kg
marine water sediment	57,2 mg/l
soil	50 mg/kg
STP	20 000 mg/l

8.2 Exposure controls

Appropriate engineering controls

Use the product in accordance with good occupational hygiene and safety practices. Ensure adequate general and/or local ventilation to ensure the maintenance of concentrations of hazardous components in the air below the exposure limit values. Local exhaust is preferred because it removes contaminants from the point of their origin, preventing them from spreading. Do not eat, drink or smoke when using the product.Avoid contact with eyes and skin. Eye washes should be installed in the vicinity of the workplaces.

Personal protective equipment

The necessity to use and selection of appropriate personal protective equipment should take into account the type of risk posed by the product, working conditions and the way of handling the product. The personal protective equipment used must meet the requirements of Regulation (EU) 2016/425 and the relevant standards. The employer is obliged to provide protection measures appropriate to the activities performed and meeting all quality requirements, including their maintenance and cleaning. Any contaminated or damaged PPE must be replaced immediately.

Skin protection

Use appropriate protective gloves in accordance with EN 374. Recommended glove material: rubber, neoprene, PVC. In case of a short contact, use protective gloves with effectiveness level 2 (breakthrough time > 30 min.). In case of a prolonged contact, use protective gloves with effectiveness level 6 (breakthrough time > 480 min.).

Use protective clothing.

The material that the gloves are made of must be impenetrable and resistant to the product's effects. The selection of material must be performed with consideration of breakthrough time, penetration speed and degradation. Moreover, the selection of proper gloves depends not only on the material, but also on other quality features and changes depending on the manufacturer. The producer should provide detailed information regarding the exact breakthrough time. This information should be followed.

Eye protection

Wear safety glasses or face protection in accordance with EN 166.

Respiratory protection

Under normal conditions it is not required. In case of the formation of vapours and aerosols, use absorbing equipment or absorbing and filtering equipment with a suitable protection class (class 1/protection against gases or vapours with a concentration in the air volume not exceeding 0.1%, class 2 / protection against gases or vapours with a concentration in the air not exceeding 0.5%, class 3 / protect against gases or vapours at concentrations in the air volume to 1%). In cases where the oxygen concentration is ≤ 19% and / or maximum concentration of toxic substances in the air is ≥ 1.0% by volume, isolating equipment should be used.

Thermal hazards

Do not occur.

Environmental exposure controls

Avoid environment contamination, do not empty into drains. Possible emissions from the ventilation systems and processing equipment should be controlled in order to determinate their compatibility with environmental protection regulations.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour	characteristic
Melting point/freezing point:	~11 °C
Boiling point or initial boiling point and boiling range:	~100 °C (750 mm Hg)
Flammability:	product not classified in terms of flammability
Lower and upper explosion limit:	not determined
Flash point:	> 120 °C
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH:	10,5
Kinematic viscosity:	not determined
Solubility:	soluble in water
Partition coefficient n-octanol/water (log value):	not determined
Vapour pressure:	not determined
Density and/or relative density:	1 g/cm^3 (20 °C)
Relative vapour density:	not determined
Particle characteristics:	not applicable

9.2 Other information

No additional data.

Section 10: Stability and reactivity

10.1 Reactivity

Product is reactive. It does not undergo hazardous polymerization. See also subsections 10.3 and 10.5.

10.2 Chemical stability

The product is stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions

No hazardous reactions are known.

10.4 Conditions to avoid

Avoid source of fire, high temperatures.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Not known.

Section 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicity of components

2- aminoethanol [CAS 141-43-5]

LD_{50} (oral, rat)	1089 mg/kg
LD_{50} (skin, rat)	2504 mg/kg

1,2-propanodiol [CAS 57-55-6]

LD_{50} (oral, rat)	22000 mg/kg
LD_{50} (skin, rabbit)	> 2000 mg/kg
LC_{50} (inhalation, rabbit)	317042 mg/l/2h

2-butoxyethanol [CAS 111-76-2]

Acute toxicity estimate:

ATE = 1200 mg/kg (oral)

ATE = 3 mg/L (Vapours)

Toxicity of mixture

Acute toxicity

ATE mix (oral)	> 2000 mg/kg
ATE mix (skin)	> 2000 mg/kg
ATE mix (inhalation)	> 20 mg/m^3

The acute toxicity estimate (ATEmix) for the classification of a substance in a mixture was determined using the appropriate conversion value from Table 3.1.2 Annex I to CLP as amended.

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

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory or skin sensitisation

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

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

See subsection 4.2 for more information on the effects from each possible route of exposure.

Symptoms related to the physical, chemical and toxicological characteristics

No data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

No data.

11.2 Information on other hazards

Endocrine disrupting properties

The components of the mixture are not identified as having endocrine disrupting properties.

Other information

Not applicable.

Section 12: Ecological information

12.1 Toxicity

Toxicity of components

2- aminoethanol [CAS 141-43-5]

Acute toxicity to fish LC_{50}	2070 mg/l/96h
Acute toxicity to crustaceans EC_{50}	32,6 mg/l/48h
Acute toxicity to algae EC_{50}	2,5 mg/l/72h

1,2-propanodiol [CAS 57-55-6]

Acute toxicity to fish LC_{50}	40613 mg/l/96h/*Oncorhynus mykiss*
Acute toxicity to crustaceans EC_{50}	18340 mg/l/48h/*Ceriodaphnia dubia*
Acute toxicity to algae EC_{50}	19000 mg/l/96h/*Pseudokirchneriella subcapitata*

Toxicity of mixture

Product is not classified as hazardous for the environment.

12.2 Persistence and degradability

The mixture is biodegradable.

12.3 Bioaccumulative potential

No data.

12.4 Mobility in soil

Mobility of components of the mixture depends on the hydrophilic and hydrophobic properties and biotic and abiotic conditions of soil, including its structure, climatic conditions, seasons and soil organisms.

12.5 Results of PBT and vPvB assessment

The components do not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation.

12.6 Endocrine disrupting properties

The components of the mixture are not identified as having endocrine disrupting properties.

12.7 Other adverse effects

The mixture is not classified as hazardous to the ozone layer. Consider other harmful effects of individual components of the mixture on the environment (eg, global warming potential).

Section 13: Disposal considerations

13.1 Waste treatment methods

Disposal methods for the product: disposal in accordance with the local legislation. Do not dispose of with municipal waste. Do not mix with other waste. Waste code should be given in the place of waste formation.

Disposal methods for used packing: reuse/recycle/eliminate empty containers in accordance with the legislation in force. Only containers completely empty can be recycled.

Legal basis: Directive 2008/98/EC as amended, 94/62/EC as amended.

Section 14: Transport information

14.1 UN number or ID number

Not applicable, product is not classified as dangerous during transportation.

14.2 UN proper shipping name

Not applicable.

14.3 Transport hazard class(es)

Not applicable.

14.4 Packing group

Not applicable.

14.5 Environmental hazards

Not applicable.

14.6 Special precautions for user

Not applicable.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

Section 15: Regulatory information

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 as amended.

Commission Regulation (EU) No 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives as amended.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste as amended.

Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC as amended.

ADR Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG Code International Maritime Dangerous Goods Code.
IATA Dangerous Goods Regulations.
Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC.
Commission Directive 2009/161/EU of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.
Commission Directive 2017/164/EU of 31 January 2017 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU.
Commission Directive 2019/1831/EU of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.

15.2 Chemical safety assessment

It is not necessary to carry out a chemical safety assessment for the mixture.

Section 16: Other information

Full text of indicated H phrases mentioned in chapter 3

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.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Clarification of aberrations and acronyms

PBT	Persistent, Bioaccumulative and Toxic substance
vPvB	very Persistent, very Bioaccumulative substance
Eye Dam. 1	Serious eye damage category 1
Eye Irrit. 2	Eye irritation category 2
Acute Tox. 3, 4	Acute toxicity category 3, 4
Skin Corr. 1B	Skin corrosion category 1B
Skin Irrit. 2	Skin irritation category 2
STOT SE 3	Specific target organ toxicity — single exposure category 3

Trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training. Persons related to the transportation of the dangerous goods in compliance with the ADR Agreement should be properly trained within the scope of performed tasks (general training, on-the-job training and training related to the safety issues).

Key literature references and data sources

The data sheet was prepared on the basis of the safety data sheets of individual components, literature data, online databases (e.g. ECHA, TOXNET, COSING) as well as our knowledge and experience, taking into account current legislation.

Methods of evaluating information which was used for the purpose of classification acc. Regulation (EC) No 1272/2008 as amended

Eye Dam. 1 H318	calculation method
Skin Irrit. 2 H315	calculation method

[redacted]

SAFETY DATA SHEET

Other data

Date of update: 13.01.2023

Changes: section 3

The information above is based on a current available data concerning the product, but also on the experience and knowledge in this field of the producer. They are neither a quality description of the product nor a guarantee of particular features. They are to be treated as aid to safety in transport, storage and usage of the product. That does not free the user from the responsibility of improper usage of the information above and also of improper compliance with the law norms in the field.