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

1.1 Product identifier

Trade name: **BOCHEMIT ANTIFLASH**

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

Intended use of the mixture: For professional and industrial use in interier. Liquid concentrate for fire protection of wood. Can be applied by dipping or painting (surface protection).

Uses advised against: The product may not be used for protection of wood which should be in direct contact with skin, drinking water, food, feeding and for treatment of wood intended for production of children´s furniture and toys.

1.3 Details of the supplier of the safety data sheet

Supplier: BOCHEMIE a.s.
Address: Lidická 326, 735 81 Bohumín, Czech Republic
Company ID: 293 96 824
Phone number: +420 596 091 111
e-mail: bochemie@bochemie.cz
e-mail of person responsible for the Safety Data Sheet: MSDS@bochemie.cz

1.4 Emergency telephone number

Toxikologické informační středisko, Na Bojišti 1, 128 08 Praha 2, Czech Republic: 224 91 92 93 or 224 91 54 02.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Acc. to Reg. No 1272/2008/EC	Skin Corr. 1B, H314; STOT SE 3, H335; Repr. 1B, H360FD

For the full wording of hazard statements see section 16.

The most important adverse physicochemical, human health and environmental effects: The mixture causes severe skin burns and eye damage. May cause respiratory irritation. May damage fertility. May damage the unborn child.

2.2 Label elements

Hazard pictograms:

Signal word: **Danger**

Hazard statements:
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H360FD May damage fertility. May damage the unborn child.

Precautionary statements:
P201 Obtain special instructions before use.
P260 Do not breathe mist.
P280 Wear protective rubber gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice.

2.3 Other hazards

The product does not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Not relevant – it is not substance.

3.2 Mixtures

3.2.1 Substances in the mixture

Hazardous components	w/w (%)	ES CAS Index. number Regist. number	Classification acc. to 1272/2008/EC, CLP
Boric acid	20	233-139-2 10043-35-3 005-007-00-2 01-2119486683-25-0028	Repr. 1B, H360FD
2-aminoethanol	8	205-483-3 141-43-5 603-030-00-8 01-2119486455-28	Acute Tox. 4, H302-H312-H332; Skin Corr. 1B, H314; STOT SE 3, H335; Aquatic Chronic 3, H412

For the full wording of hazard statements see section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible).
Inhalation: remove the source of exposure, prevent physical strain (including walk), or seek medical help.
Skin contact: take off contaminated clothing and shoes. Wash thoroughly with water and soap. According to the exposure extent, seek medical attention.
Eye contact: flush immediately with large amounts of fresh water at least 10 minutes; seek medical attention.
Ingestion: rinse mouth with potable water and leave victim to drink 0.5 L of water if the subject is conscious. Do not induce vomiting, seek medical aid.

4.2 Most important symptoms and effects, both acute and delayed

The mixture causes severe skin burns and eye damage. May cause respiratory irritation. May damage fertility. May damage the unborn child.

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

In case of to eyes contact, ingestion and in the lasting irritant effect ensure medical aid (show the label).

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable: the mixture is not flammable. Use extinguishing media according to the character of the fire.
Unsuitable: do not use water – risk of release to the sewers and environment.

5.2 Special hazards arising from the substance or mixture

In case of fire the product releases toxic gas. Avoid burning products.

5.3 Advice for fire fighters

In case fires wear full protective clothing, eyes protection and suitable respiratory system protection. In case of release to the sewers act upon emergency plans (capturing and/or diluting with water).

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Wear suitable personal protective equipment. Avoid contact with skin and eyes. Do not use the substance in the closed area. Do not eat, drink and smoke when handling the product.

6.1.2 For emergency responders

Wear suitable personal protective equipment. Avoid contact with skin and eyes. In case of accidental discharge into sewers or water courses, dilute the product with sufficient amount of water act according to local regulations and emergency plans and notify local authorities.

6.2 Environmental precautions

Avoid release to the sewers, water courses, soil or environment. In case of accidental discharge of large amount of the concentrated product to the surface water, ground water or waste water, notify local authorities according to local regulations (e.g. fire brigade, police, rescue police, water course administrator).

6.3 Methods and material for containment and cleaning up

In case spill the product, use suitable absorbents (special absorbents for aggressive materials or universal absorbents) and put into the labelled lockable container. Avoid accidental discharge into sewers or water courses.

6.4 Reference to other sections

See section 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Store in vented, closed, clean in dry location, away direct sunlight and not adjacent to chemicals. Avoid excessive contamination of environment. Avoid excessive contamination of employees. Do NOT eat, drink and smoke when handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Store the mixture in original containers. Storage temperature: from -15 to + 30°C. Keep away from food, drink, fresh water and feed. Protect against direct sunlight. Freshly treated timber must be stored after treatment under shelter and/or on impermeable hard standing to prevent direct losses to soil or water.

7.3 Specific and use(s)

Important information is provided by material data safety sheet, by instructions on the label or on the web pages by company – Bochemie a.s. (www.bochemie.cz).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Exposure limits values

Regulation of Czech Government No. 361/2007:

Substance	CAS	PEL (mg/m^3)	NPK-P (mg/m^3)	Conversion factor to ppm
Monoethanolamine	141-43-5	2.5	7.5	0.401

8.1.2 Biological limit values

Decree No 432/2003 of Czech Act Collection does not set indication limits of biological exposure tests.

8.1.3 Information monitoring procedures

Monitor the concentration in the workplace according the Regulation of Czech Government No. 361/2007.

8.1.4 Value of DNEL and PNEC

Boric acid

PNEC	fresh water		2.9 mg/l	
	marine water		2.9 mg/l	
	soil		5.7 mg/kg	
	sewerage plant treatment		10 mg/l	
DNEL				
Long-term exposure:	systemic effect	worker	inhalation	8.3 mg/m^3
			dermal	392 mg/kg/day
		consumer	inhalation	4.15 mg/m^3
			dermal	196 mg/kg/day

			oral	0.98 mg/kg/day
Acute	Local effect, consumer		oral	0.98 mg/kg/day
2-aminoethanol				
PNEC	fresh water		0.085 mg/l	
	marine water		0.0085 mg/l	
	sediment (fresh water)		0.434 mg/kg	
	sediment (marine water)		0.0434 mg/kg	
	soil		0.035 mg/kg	
	sewerage plant treatment		100 mg/l	
	intermittent release		0.028 mg/l	
DNEL				
long-term exposure:	systemic effect	worker	dermal	1 mg/kg bw/day
		consumer	dermal	0.24 mg/kg bw/day
			oral	3.75 mg/kg bw/day
	Local effect	worker	inhalation	3.3 mg/m^3
		consumer	inhalation	2 mg/m^3

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation/exhaustion at workplace. Do not drink, eat or smoke during the work. Keep usual hygienic rules for handling the product and wear suitable personal protective equipment. Only the personnel familiar with the properties of the product, with handling instructions and principles of personal and environmental protection and wearing personal protective equipment is allowed to handle the product. Contaminated clothes can be reused only after thorough cleanup. Wash hands and face by drinking water and soap and flush mouth with drinking water before eating and at the end of working shift and use protective cream on the skin.

8.2.2 Individual protection measures, such as personal protective equipment

Eye/face protection: wear protective goggles and protective shield
Skin protection: protective clothing, closed shoes.
Hand protection: wear rubber (latex) gloves.
Respiratory protection: ensure suitable aspirators (or wear suitable respiratory system protection with an anti-aerosol filter).

8.2.3 Environmental exposure controls

Observe instructions for handling and storage, particularly ensure provisions preventing spill of concentrated mixture into watercourses, soil and sewerage (for further information see Handling Conditions according to Act No 254/2001 of Czech Act Coll., on Waters).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance (°C):	liquid
Colour:	according to colour modification of the product (green, brown, colourless)
Odour:	slightly aromatic
pH (at 20°C):	8.4-8.9 (concentrate); 8-9 (10% and 50% water solution)
Melting point:	not estimated
Freezing point:	not estimated
Boiling point:	not estimated
Flash point:	not estimated
Evaporation rate:	not estimated
Flammability (solid, gas):	not flammable
Upper/lower flammability or explosive limits:	not flammable
Vapour pressure (°C):	not estimated
Vapour density:	not estimated
Relative density (at 20°C):	1.270

Solubility:	completely soluble in water
Partition coefficient: n-octanol/water:	not estimated
Auto-ignition temperature;	not flammable
Decomposition temperature:	not estimated
Viscosity:	not estimated
Explosive properties:	not estimated
Oxidising properties:	does not show oxidising properties

9.2 Other information

VOC – Content of volatile organic compounds: A/e, WB 130g/l, contain 40g/l in the application solution.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

The mixture reacts with acids and oxidising agents.

10.2 Chemical stability

Product is stable in normal conditions of usage and storage (keep temperature range for storage).

10.3 Possibility of hazardous reactions

Not known.

10.4 Conditions to avoid

Avoid raised temperature, long-lasting direct exposure to sun and temperature changes during storage.

10.5 Incompatible materials

Strong oxidising agents and concentrated acids.

10.6 Hazardous decomposition products

Carbon oxides, nitrogen oxides, eventually ammonia.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

a) acute toxicity	ATE mix oral, dermal pro produkt > 2000 mg/kg ATE mix inhal > 5 mg/l
	Boric acid LD50 oral, rat > 2600 mg/kg LD50 dermal, rat or rabbit > 2000 mg/kg LC50 inhalation, rat, for particles > 2 mg/l/4h
	2-aminoethanol LD50 oral, rat = 1515 mg/kg LD50 dermal, rabbit = 2504 mg/kg LC50, inhalation, for gases and vapour = rat >1.3 mg/l/6h
b) skin corrosion/irritation:	The mixture causes severe skin burns.
c) serious eye damage/irritation:	The mixture causes serious eye damage.
d) respiratory or skin sensitisation:	Criteria for classification are not met based on available data.
e) germ cell mutagenicity:	Criteria for classification are not met based on available data.
f) carcinogenicity:	Criteria for classification are not met based on available data.
g) reproductive toxicity:	May impair fertility and cause harm to the unborn child. Pregnant women and women planning to become pregnant should not work with this mixture
h) STOT-single exposure:	May cause respiratory irritation.
i) STOT-repeated exposure:	Criteria for classification are not met based on available data.
j) aspiration hazard	Criteria for classification are not met based on available data.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Boric acid

Toxicity to fish (Limanda limanda)	LC50	74 mg B/l/96h
Toxicity to daphnia	EC50	133 mg B/l/48
Toxicity to algae (Chlorea pyrenoidosa)	EC50	10 mg B/l
2- aminoethanol		
Toxicity to daphnia (Daphnia magna)	EC50	27.04 mg/l/48h
Toxicity to algae (Selenastrum capricornutum)	EC50	2.82 mg/l/72h
Toxicity to fish (Carassius auratus)	LC50	170 mg/l/96h
Toxicity to microorganisms (Pseudomonas putida)	EC50	110 mg/l/17h

12.2 Persistence and degradability

Not applicable for inorganic substances.

2- aminoethanol

Easy biodegradable, OECD 301A: biodegradation > 90% (21 days).
Biological oxygen demand BSK5: 800 mg/g (5 days)

12.3 Bioaccumulative potential

Boric acid

Boric acid cannot bioaccumulate in food chain.

2- aminoethanol

Bioaccumulative potential is low (BCF < 100, log Pow < 3), bioaccumulation is unlikely, partition coefficient, n-octanol/water (log Pow): -1.91 (25° C)

12.4 Mobility in soil

Boric acid

Adsorption to soil or sediments is negligible.

2- aminoethanol

Mobility in soil is very high (Koc between 0 and 50).
Partition coefficient, n-octanol/water (log Pow): 1.17.
Henry's law constant of 3.7 E-5 Pa*m3/mol
The substance does not evaporate to the atmosphere from the water surface. Adsorption to soil or sediments is negligible.

12.5 Results of PBT and vPvB assessment

PBT or vPvB tests for mixture are not been performed.

12.6 Other adverse effects

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SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

a) Recommended Methods of Substance and Contaminated Packaging Disposal

According to Waste Catalogue, it is dangerous waste. Personal protective equipment should be used and provisions to be applied when handling and collecting wastes regarding protection of waste spill into environment. Waste hand over to specialized competent company, if need be hand over within the framework of dangerous waste collection in your community. Dispose of potential residuals of the preparation as hazardous waste.

b) Physical/chemical properties that may affect waste treatment options

Avoid contact with acids and strong oxidising agents.

c) Sewage disposal shall be discouraged

Waste should not be disposed of by release to sewers.

d) Special precautions for any recommended waste treatment

Waste Legal Regulations:

Directive 2008/98/EC on waste and repealing certain Directives. If this mixture and its packaging become waste, the last user has to assign relevant waste code – European Waste Code (EWC code) according to Commission Decision (2000/532/EC).

Suggestion of waste classification:

Or subgroup	16 03	off-specification batches and unused products
	16 03 03*	inorganic wastes containing dangerous substances

Suggestion of waste container classification:
Containers with residues of the mixture: 15 01 10* packaging containing residues of or contaminated by dangerous substances.

SECTION 14: TRANSPORT INFORMATION

	(ADR/RID/GGVSE)	IMDG
14.1 UN Number:	UN 1760	UN 1760
14.2 UN proper shipping name:	COROSSIVE LIQUID, N.O.S. (2-aminoethanol)	COROSSIVE LIQUID, N.O.S. (2-aminoethanol)
14.3 Transport hazard class:	8	8
14.4 Packing group:	III	III
14.5 Environmental hazards:	NO	NO
14.6 Special precautions for user:	--	--
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:	--	--
14.8 Other information:		
Danger code (Kemler)	80	80
Limited quantities (LQ)	5 L	5 L

SECTION 15: REGULATORY INFORMATION

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

Legislation regulating individual issues of the environmental protection and occupational hygiene conditions.
Regulation No. 1907/2006 (REACH).
Regulation No 1272/2008/ES (CLP)

15.2 Chemical safety assessment

A Chemical Safety Assessment was not carried out for the mixture.

SECTION 16: OTHER INFORMATION

a) Changes during Revision of the MSDS

Revision No 8.0 – change of information in section 2.2, 8, 11, 12.
The changed sections are indicated with bold line:

b) A key or legend to abbreviations and acronyms used

Acute Tox. 4	Acute toxicity cat. 4
Skin Corr. 1B	Skin corrosion cat. 1B
Repr. 1B	Reproductive toxicity cat.1B
STOT SE 3	Specific target organ toxicity – single exposure
Aquatic Chronic 3	Hazardous to the aquatic environment with long lasting effect, cat. 3
EC50	Effective Concentration, 50 percent
LD50	Lethal dose, 50 percent
LC50	Lethal concentration, 50 percent
NPK-P	Maximum Permissible Concentration
PEL	Permissible Exposure Limit
PBT	Persistent, Bioaccumulative and Toxic
vPvB	Very Persistent and Very Bioaccumulative
DNEL	Derived no-effect level
PNEC	Predicted no-effect concentration
WB	Water based

c) Key literature references and sources for data

Information contained herein is based on our best knowledge and current legislation, according to Regulation 1272/2008/EC. Further, this Material Safety Data Sheet was elaborated on grounds of information provided by

suppliers of particular components of the mixture. The MSDS contains information needed for security of safety and occupational health protection and the environmental protection. The mentioned information refers to present state of knowledge and experience and is in accordance with legislation in force. It cannot be considered warrantee of suitability or usability of the product for particular application.

d) The methods of evaluating information

The mixture was classified according to Regulation 1272/2008/EC.

e) List of relevant hazard statements

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H314	Causes severe skin burns and eye damage.
H412	Harmful to aquatic life with long lasting effects.
H360FD	May damage fertility. May damage the unborn child.

f) Instructions for Training

Personnel handling the preparation must be instructed about manipulation risks and on requirements for health and environmental protection (relevant provisions of the Labor Code as amended) and further, they must be demonstrably familiarized with dangerous properties, occupational health and environmental protection principles and first aid measures (Act No. 258/2000 Coll. on public health protection as amended).

g) Recommended Use Limitations

The mixture should not be used for any other purpose than determined (see section1.2). As specific conditions of use of the substance are beyond control of the supplier, the user is the only responsible to adapt the information and warnings contained herein to local legislation and regulations. The safety information describes the product from perspective of its safety and it cannot be deemed technical specifications of the product.