

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/13/2023

Reviewed on 01/13/2023

1 Identification

Product identifier

- Trade name: **ATTBLIME - AB6**
 Application of the substance / the mixture: Flattening agent, Matting agent

Details of the supplier of the safety data sheet

- Manufacturer/Supplier: Graichen
 Produktions- und Vertriebs-GmbH
 Darmstädter Str. 127 - 129
 D-64625 Bensheim
 Tel.: +49(0)6251/73103
 Fax: +49(0)6251/77901
 e-mail: info@graichen-bensheim.de
 homepage: http://www.graichen.net
- Information department: Product Safety Department
 Emergency medical information for poisoning:
 Emergency telephone number: Poison Information Center Mainz - 24h -
 Tel.: +49 (0) 6131 19240
 USA / CAN : 800-424-9300 (available 24 hrs)
 Advice center for poisoning in Mainz Tel: +49(0)6131/19240 Poison information: +49(0)700/ GIFTINFO

2 Hazard(s) identification

Classification of the substance or mixture

- Flammable Aerosols 1 H222 Extremely flammable aerosol.
 Gases under Pressure - Compressed gas H280 Contains gas under pressure; may explode if heated.
 Eye Irritation 2A H319 Causes serious eye irritation.
 Specific Target Organ Toxicity - Single Exposure 3 H336 May cause drowsiness or dizziness.

Label elements

- GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).
 Hazard pictograms: 

GHS02 GHS04 GHS07

Signal word

Danger

Hazard-determining components of labeling:

Hazard statements

propan-2-ol
 Extremely flammable aerosol.
 Contains gas under pressure; may explode if heated.
 Causes serious eye irritation.
 May cause drowsiness or dizziness.

Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Do not spray on an open flame or other ignition source.
 Pressurized container: Do not pierce or burn, even after use.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear eye protection / face protection.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a poison center/doctor if you feel unwell.
 If eye irritation persists: Get medical advice/attention.
 Store in a well-ventilated place. Keep container tightly closed.
 Store locked up.
 Protect from sunlight. Store in a well-ventilated place.
 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Information pertaining to particular dangers for man and environment:

NFPA ratings (scale 0 - 4)



HMIS-ratings (scale 0 - 4)



Other hazards

- Results of PBT and vPvB assessment
 PBT: Not applicable.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/13/2023

Reviewed on 01/13/2023

Trade name: ATTBLIME - AB6

vPvB: Not applicable.

(Contd. of page 1)

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Active substance with propellant

Dangerous components:

CAS: 106-97-8	butane (containing $\leq 0,1$ % butadiene (106-99-0)) ⚠ Flammable Gases 1, H220; ⚠ Gases under Pressure - Compressed gas, H280	25 – 50%
CAS: 74-98-6	propane ⚠ Flammable Gases 1, H220; ⚠ Gases under Pressure - Compressed gas, H280	10 – 25%
CAS: 67-63-0	propan-2-ol ⚠ Flammable Liquids 2, H225; ⚠ Eye Irritation 2A, H319; ⚠ Specific Target Organ Toxicity - Single Exposure 3, H336	10 – 25%
CAS: 287-92-3	cyclopentane ⚠ Flammable Liquids 2, H225; ⚠ Aquatic Chronic 3, H412	2.5 – 10%
CAS: 291-64-5	cycloheptane ⚠ Flammable Liquids 2, H225	2.5 – 10%
CAS: 75-28-5	isobutane (containing $\leq 0,1$ % butadiene (106-99-0)) ⚠ Flammable Gases 1, H220; ⚠ Gases under Pressure - Compressed gas, H280	< 2.5%

Additional information: For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

Description of first aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
 After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
 After swallowing: Seek immediate medical advice.
 Information for doctor:
 Most important symptoms and effects, both acute and delayed: No further relevant information available.
 Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents: CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
 CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents: Water

Special hazards arising from the substance or mixture

No further relevant information available.

Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.
 Do not inhale explosion gases or combustion gases.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use respiratory protective device against the effects of fumes/dust/aerosol.
 Ensure adequate ventilation
 Keep away from ignition sources

Environmental precautions:

Keep contaminated washing water and dispose of appropriately.
 Do not allow product to reach sewage system or any water course.
 Inform respective authorities in case of seepage into water course or sewage system.

Methods and material for containment and cleaning up:

Ensure adequate ventilation.
 Do not flush with water or aqueous cleansing agents

Reference to other sections

See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

Protective Action Criteria for Chemicals

PAC-1:

CAS: 106-97-8	butane (containing $\leq 0,1$ % butadiene (106-99-0))	5500* ppm
CAS: 74-98-6	propane	5500* ppm
CAS: 67-63-0	propan-2-ol	400 ppm
CAS: 287-92-3	cyclopentane	1800* ppm
CAS: 75-28-5	isobutane (containing $\leq 0,1$ % butadiene (106-99-0))	5500* ppm

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/13/2023

Reviewed on 01/13/2023

Trade name: ATTBLIME - AB6

(Contd. of page 2)

CAS: 74-84-0	ethane	65000*** ppm
. PAC-2:		
CAS: 106-97-8	butane (containing $\leq 0,1$ % butadiene (106-99-0))	17000** ppm
CAS: 74-98-6	propane	17000** ppm
CAS: 67-63-0	propan-2-ol	2000* ppm
CAS: 287-92-3	cyclopentane	3800* ppm
CAS: 75-28-5	isobutane (containing $\leq 0,1$ % butadiene (106-99-0))	17000** ppm
CAS: 74-84-0	ethane	230000*** ppm
. PAC-3:		
CAS: 106-97-8	butane (containing $\leq 0,1$ % butadiene (106-99-0))	53000*** ppm
CAS: 74-98-6	propane	33000*** ppm
CAS: 67-63-0	propan-2-ol	12000** ppm
CAS: 287-92-3	cyclopentane	23000*** ppm
CAS: 75-28-5	isobutane (containing $\leq 0,1$ % butadiene (106-99-0))	53000*** ppm
CAS: 74-84-0	ethane	400000*** ppm

7 Handling and storage

. Handling:

- . Precautions for safe handling: Open and handle receptacle with care.
- . Information about protection against explosions and fires: Keep ignition sources away - Do not smoke. Protect against electrostatic charges. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

. Conditions for safe storage, including any incompatibilities

- . Requirements to be met by storerooms and receptacles: Store in a cool location. Observe official regulations on storing packagings with pressurized containers.
- . Information about storage in one common storage facility: Store away from oxidizing agents.
- . Further information about storage conditions: Keep receptacle tightly sealed. Store in cool, dry conditions in well sealed receptacles. Protect from heat and direct sunlight.
- . Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- . Additional information about design of technical systems: No further data; see item 7.

. Control parameters

- . Components with limit values that require monitoring at the workplace: The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the remaining constituent has no known exposure limits.

CAS: 106-97-8 butane (containing $\leq 0,1$ % butadiene (106-99-0))	
REL	Long-term value: 1900 mg/m ³ , 800 ppm
TLV (EX)	Short-term value: 1000 ppm
CAS: 74-98-6 propane	
PEL	Long-term value: 1800 mg/m ³ , 1000 ppm
REL	Long-term value: 1800 mg/m ³ , 1000 ppm
TLV	see Appendix F Minimal oxygen content (D, EX)
CAS: 67-63-0 propan-2-ol	
PEL	Long-term value: 980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: 400 ppm Long-term value: 200 ppm BEI, A4
CAS: 287-92-3 cyclopentane	
REL	Long-term value: 1720 mg/m ³ , 600 ppm

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/13/2023

Reviewed on 01/13/2023

Trade name: ATTBLIME - AB6

(Contd. of page 3)

TLV	Long-term value: 1000 ppm EX
CAS: 75-28-5 isobutane (containing $\leq 0,1$ % butadiene (106-99-0))	
TLV	Short-term value: 1000 ppm (EX)
. Ingredients with biological limit values:	
CAS: 67-63-0 propan-2-ol	
BEI	40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific)
. Additional information: The lists that were valid during the creation were used as basis.	
Exposure controls	
. Personal protective equipment:	
. General protective and hygienic measures: Wash hands before breaks and at the end of work.	
. Breathing equipment: Use suitable respiratory protective device in case of insufficient ventilation.	
. Protection of hands: Protective gloves	
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.	
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.	
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation	
. Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.	
. Penetration time of glove material: Value for the permeation: Level $\leq 0,7$ mm 480min (8h) EN374	
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.	
. Eye protection: Tightly sealed goggles	
. Body protection: Protective work clothing	

9 Physical and chemical properties

Information on basic physical and chemical properties	
. General Information	
. Appearance:	
Form:	Aerosol
Color:	White
Odor:	Characteristic
Odor threshold:	Not determined.
. pH-value at 20 °C (68 °F):	6.75
. Change in condition	
Boiling point/Boiling range:	-44.5 °C (-48.1 °F)
. Flash point:	-97 °C (-142.6 °F)
. Flammability (solid, gaseous):	Not applicable.
. Ignition temperature:	230 °C (446 °F)
. Decomposition temperature:	Not determined.
. Auto igniting:	Product is not selfigniting.
. Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
. Explosion limits:	
Lower:	1.5 Vol %
Upper:	12 Vol %
. Vapor pressure at 20 °C (68 °F):	8,300 hPa (6.200 mm Hg)
. Density at 20 °C (68 °F):	0.672 g/cm ³ (5.6078 lbs/gal)
. Relative density	Not determined.
. Vapor density	Not determined.
. Evaporation rate	Not applicable.
. Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
. Partition coefficient (n-octanol/water): Not determined.	

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/13/2023

Reviewed on 01/13/2023

Trade name: ATTBLIME - AB6

(Contd. of page 4)

. Viscosity: Dynamic:	Not determined.
. Solvent content:	
Organic solvents:	86.6 %
VOC content:	87.93 %
VOC (EU) (%)	88.0 %
Solids content:	13.4 %
. Other information	No further relevant information available.

10 Stability and reactivity

- . **Reactivity** No further relevant information available.
- . **Chemical stability**
- . Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- . **Possibility of hazardous reactions** No dangerous reactions known.
- . **Conditions to avoid** No further relevant information available.
- . **Incompatible materials:** No further relevant information available.
- . **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

. Information on toxicological effects

. Acute toxicity:

. LD/LC50 values that are relevant for classification:

CAS: 67-63-0 propan-2-ol

Oral	LD50	5,840 mg/kg (rat) (Acute Oral Toxicity)
Dermal	LD50	12,870 mg/kg (rab) (Acute Dermal Toxicity)
Inhalative	LC50/4h	72.6 mg/l (rat)
	LC50/6h	> 25 mg/l (rat) (Acute Inhalation Toxicity)

. Primary irritant effect:

. on the skin:

CAS: 67-63-0 propan-2-ol

Ätz-/Reizwirkung auf die Haut (4h) | (rabbit) (Acute Dermal Irritation/Corrosion)

. on the eye:

Irritating effect.

CAS: 67-63-0 propan-2-ol

Schwere Augenschädigung/-reizung | (rabbit) (Acute Eye Irritation/Corrosion)

. Sensitization:

No sensitizing effects known.

. Additional toxicological information:

CAS: 67-63-0 propan-2-ol

NOAEL, maternal	400 mg/kg KG/day (rat)
NOAEL, parents	500 mg/kg KG/day (Two-Generation Reproduction Toxicity)
	853 mg/kg KG/day (rat) (One-Generation Reproduction Toxicity Study)

. Carcinogenic categories

. IARC (International Agency for Research on Cancer)

CAS: 67-63-0 | propan-2-ol

3

. NTP (National Toxicology Program)

None of the ingredients is listed.

. OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

. Reproductive toxicity

CAS: 67-63-0 propan-2-ol

Oral | NOAEL, Parents | 500 mg/kg (rat) (Two-Generation Reproduction Toxicity)

. Specific target organ toxicity - repeated exposure

CAS: 67-63-0 propan-2-ol

STOT RE | mg/kg/day (rat)

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/13/2023

Reviewed on 01/13/2023

Trade name: ATTBLIME - AB6

(Contd. of page 5)

12 Ecological information

. Toxicity

. Aquatic toxicity:

CAS: 106-97-8 butane (containing $\leq 0,1$ % butadiene (106-99-0))

EC50 (96h) | 7.71 mg/l (Algae)

LC50 (96h) | 27.98 mg/l (Fisch)

CAS: 74-98-6 propane

EC50 (96h) | 7.71 mg/l (Algae)

LC50 (96h) | 27.98 mg/l (Fisch)

CAS: 67-63-0 propan-2-ol

EC50 | > 100 mg/l (Bacteria)

EC50 (48h) | > 100 mg/l (daphnia magna/gr. Wasserfloh)

EC50 (72h) | > 100 mg/l (Scenedesmus subspicatus)

EC50 (96h) | > 1,000 mg/l (Scenedesmus subspicatus) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)

LC50 (24h) | 9,714 mg/l (daphnia magna/gr. Wasserfloh) (Daphnia sp. Acute Immobilisation Test)

9,640 mg/l (Pimephales promelas (fettköpf. Ellritze)) (Fish, Acute Toxicity Test)

LC50 (48h) | > 100 mg/l (Leuciscus idus (Goldorfe))

LC50 (96h) | > 9,640 – 10,000 mg/l (Pimephales promelas (fettköpf. Ellritze)) (Fish, Acute Toxicity Test)

LOEC (8d) | 1,000 mg/l (Algae)

EC50 (3h) | > 1,000 mg/l (activated sludge) (Mikroorganismen/Wirkung auf Belebtschlamm)

NOEC (21d) | 30 mg/l (daphnia magna/gr. Wasserfloh) (Daphnia magna Reproduction Test)

NOEC (96h) | 1,000 mg/l (Scenedesmus subspicatus) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)

CAS: 75-28-5 isobutane (containing $\leq 0,1$ % butadiene (106-99-0))

EC50 (96h) | 7.71 mg/l (Algae)

LC50 (96h) | 27.98 mg/l (Fisch)

. Persistence and degradability

CAS: 67-63-0 propan-2-ol

Biodegradability 30d | 70 – 84 % (aerob) ((Derterm. of the "Ready" Biodegr. Closed Bottle))

. Behavior in environmental systems:

. Bioaccumulative potential

CAS: 67-63-0 propan-2-ol

Log Pow | 0.05

. Mobility in soil | No further relevant information available.

. Additional ecological information:

. General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

. Results of PBT and vPvB assessment

. PBT: | Not applicable.

. vPvB: | Not applicable.

. Other adverse effects | No further relevant information available.

13 Disposal considerations

. Waste treatment methods

. Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

. Uncleaned packagings:

. Recommendation:

Disposal must be made according to official regulations.

14 Transport information

. UN-Number

. DOT, ADR, IMDG, IATA

UN1950

. UN proper shipping name

. DOT

Aerosols, flammable

. ADR

1950 AEROSOLS

. IMDG

AEROSOLS

. IATA

AEROSOLS, flammable

(Contd. on page 7)

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/13/2023

Reviewed on 01/13/2023

Trade name: ATTBLIME - AB6

(Contd. of page 6)

. Transport hazard class(es)	
. DOT	
	
. Class	2.1 Gases
. Label	2.1
<hr/>	
. ADR	
	
. Class	2.5F Gases
. Label	2.1
<hr/>	
. IMDG, IATA	
	
. Class	2.1 Gases
. Label	2.1
<hr/>	
. Packing group	
. DOT, ADR, IMDG, IATA	Void
<hr/>	
. Environmental hazards:	
	Not applicable.
<hr/>	
. Special precautions for user	
. Hazard identification number (Kemler code):	Warning: Gases
. EMS Number:	-
. Stowage Code	F-D,S-U
	SW1 Protected from sources of heat.
	SW22 For AEROSOLS with a maximum capacity of 1 litre:
	Category A. For AEROSOLS with a capacity above 1 litre:
	Category B. For WASTE AEROSOLS: Category C, Clear of
	living quarters.
. Segregation Code	SG69 For AEROSOLS with a maximum capacity of 1 litre:
	Segregation as for class 9. Stow "separated from" class 1 except
	for division 1.4.
	For AEROSOLS with a capacity above 1 litre:
	Segregation as for the appropriate subdivision of class 2.
	For WASTE AEROSOLS:
	Segregation as for the appropriate subdivision of class 2.
<hr/>	
. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	
	Not applicable.
<hr/>	
. Transport/Additional information:	
<hr/>	
. ADR	
. Excepted quantities (EQ)	Code: E0
	Not permitted as Excepted Quantity
<hr/>	
. IMDG	
. Limited quantities (LQ)	1L
. Excepted quantities (EQ)	Code: E0
	Not permitted as Excepted Quantity
<hr/>	
. UN "Model Regulation":	
	UN 1950 AEROSOLS, 2.1

15 Regulatory information

. Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.
. Sara

. Section 355 (extremely hazardous substances):	
None of the ingredients is listed.	
<hr/>	
. Section 313 (Specific toxic chemical listings):	
CAS: 67-63-0 propan-2-ol	
<hr/>	
. TSCA (Toxic Substances Control Act):	
CAS: 106-97-8	butane (containing ≤ 0,1 % butadiene (106-99-0))
	ACTIVE
CAS: 74-98-6	propane
	ACTIVE

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/13/2023

Reviewed on 01/13/2023

Trade name: ATTBLIME - AB6

(Contd. of page 7)

CAS: 67-63-0	propan-2-ol	ACTIVE
CAS: 294-62-2	Cyclododecan	ACTIVE
CAS: 287-92-3	cyclopentane	ACTIVE
CAS: 75-28-5	isobutane (containing ≤ 0,1 % butadiene (106-99-0))	ACTIVE
CAS: 74-84-0	ethane	ACTIVE

. Hazardous Air Pollutants
None of the ingredients is listed.

. Proposition 65

. Chemicals known to cause cancer:
None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.

. Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

. Carcinogenic categories

. EPA (Environmental Protection Agency)
None of the ingredients is listed.

. TLV (Threshold Limit Value)
CAS: 67-63-0 | propan-2-ol | A4

. MAK (German Maximum Workplace Concentration)
None of the ingredients is listed.

. NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

. GHS label elements
The product is classified and labeled according to the Globally Harmonized System (GHS).

. Hazard pictograms


GHS02 GHS04 GHS07

. Signal word
Danger

. Hazard-determining components of labeling:
propan-2-ol

. Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.

. Precautionary statements
May cause drowsiness or dizziness.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.

Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.
Wear eye protection / face protection.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Protect from sunlight. Store in a well-ventilated place.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Dispose of contents/container in accordance with local/regional/national/international regulations.

. **Chemical safety assessment:**
A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

. **Department issuing SDS:** Environment protection department.

. **Contact:**

. Date of preparation / last revision: 01/13/2023

. Abbreviations and acronyms: ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation

(Contd. on page 9)

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/13/2023

Reviewed on 01/13/2023

Trade name: ATTBLIME - AB6

(Contd. of page 8)

IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEL: Biological Exposure Limit
Flammable Gases 1: Flammable gases – Category 1
Flammable Aerosols 1: Aerosols – Category 1
Gases under Pressure - Compressed gas: Gases under pressure – Compressed gas
Flammable Liquids 2: Flammable liquids – Category 2
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

. * Data compared to the previous
version altered.

US