



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Tuff Stuff Multi-Purpose Foam Cleaner - Aerosol

Version number: GHS 15.0  
Replaces version of: 2023-07-21 (GHS 14)

Revision: 2025-08-26

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name

**Tuff Stuff Multi-Purpose Foam Cleaner - Aerosol**

Alternative number(s)

071153785601, 071153003507, 071153785618,  
071153174184, 071153191136

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

Relevant identified uses

General use

#### 1.3 Details of the supplier of the safety data sheet

Energizer Manufacturing, Inc.  
25225 Detroit Rd.  
Westlake OH 44145  
United States

Telephone: 800-383-7323; 314-985-2000 (USA / CANADA)  
e-mail: Autocare.regulatory@energizer.com  
Website: <https://data.energizer.com>

#### 1.4 Emergency telephone number

Emergency information service

FOR EMERGENCY in USA & Canada CALL +1 800  
255-3924 / For International CALL +1 813 248 0585  
This number is only available during the following  
office hours: Mon-Fri 09:00 AM - 05:00 PM

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and category	Hazard state-ment
B.3	flammable aerosol	1	Flam. Aerosol 1	H222
B.5	gases under pressure	C	Press. Gas C	H280

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Contains gas under pressure; may explode if heated.

#### 2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word              danger

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### - Pictograms

GHS02, GHS04



### - Hazard statements

H222 Extremely flammable aerosol.  
H280 Contains gas under pressure; may explode if heated.

### - Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P211 Do not spray on an open flame or other ignition source.  
P251 Pressurized container: Do not pierce or burn, even after use.  
P410+P403 Protect from sunlight. Store in a well-ventilated place.  
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

## 2.3 Other hazards

Hazards not otherwise classified

Harmful to aquatic life (GHS category 3: aquatic toxicity - acute).  
Causes mild skin irritation (GHS category 3: irritant to skin).

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of  $\geq 0.1\%$ .




## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures










Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
isobutane	CAS No 75-28-5	1 – < 5	Flam. Gas 1 / H220 Press. Gas C / H280	
2-butoxyethanol	CAS No 111-76-2	1 – < 5	Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Flam. Liq. 4 / H227	
Alcohols, C12-15, ethoxylated	CAS No 68131-39-5	1 – < 5	Flam. Liq. 3 / H226	

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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
disodium metasilicate	CAS No 6834-92-0	< 1	Acute Tox. 4 / H302 Acute Tox. 3 / H331 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT SE 3 / H335 Met. Corr. 1 / H290	  
sodium nitrite	CAS No 7632-00-0	< 1	Acute Tox. 3 / H301 Eye Irrit. 2 / H319 Ox. Sol. 2 / H272	  
morpholine	CAS No 110-91-8	< 1	Acute Tox. 4 / H302 Acute Tox. 3 / H311 Acute Tox. 4 / H332 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Flam. Liq. 3 / H226	  

### Remarks

For full text of abbreviations: see SECTION 16

Legend: Press. Gas

Press. Gas C: Gas under pressure: compressed gas

Press. Gas L: Gas under pressure: liquefied gas

Press. Gas R: Gas under pressure: refrigerated liquefied gas

Press. Gas D: Gas under pressure: dissolved gas.

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

#### General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

#### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

#### Following skin contact

Thaw frosted parts with lukewarm water. Do not rub affected area.

#### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

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

Symptoms and effects are not known to date.

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

none

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### SECTION 5: Fire-fighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder

Unsuitable extinguishing media

Water jet

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

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Contact with the product can cause burns and/or frostbite. Contains gas under pressure; may explode if heated.

Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

#### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

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Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

#### Managing of associated risks

##### - Flammability hazards

Do not spray on an open flame or other ignition source. Protect from sunlight.

#### Control of the effects

Protect against external exposure, such as frost

##### - Packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
US	morpholine	110-91-8	REL	20 (10 h)	70 (10 h)	30	105			H	NIOSH REL
US	morpholine	110-91-8	TLV®	20	71					H	AC-GIH® 2025
US	morpholine	110-91-8	PEL	20	70					H	29 CFR 1910.1000
US	morpholine (tetrahydro-2H-1,4-oxazine)	110-91-8	PEL (CA)	20	70	30	105			H	Cal/OSHA PEL
US	2-butoxyethanol	111-76-2	TLV®	20	97						AC-GIH® 2025
US	2-butoxyethanol	111-76-2	REL	5 (10 h)	24 (10 h)					H	NIOSH REL

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### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
US	2-butoxyethanol	111-76-2	PEL	50	240					H	29 CFR 1910.1000
US	2-butoxyethanol (EGBE) (glycol monobutyl ether)	111-76-2	PEL (CA)	20	97					H	Cal/OSHA PEL
US	isobutane	75-28-5	REL	800 (10 h)	1,900 (10 h)						NIOSH REL
US	isobutane	75-28-5	TLV®			1,000	2,370			E	ACGIH® 2025

#### Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
E	explosive
H	absorbed through the skin
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

### Biological limit values

Country	Name of agent	Parameter	Notation	Identifier	Value	Source
US	2-butoxyethanol (EGBE)	Butoxyacetic acid (BAA)	crea, crea-limit3c	BEI®	200 mg/g	ACGIH® 2025

#### Notation

crea	creatinine
crea-limit3c	acceptable limits on urine specimens: creatinine concentration: >0.3 g/L and <3.0 g/L, specific gravity: >1.010 and <1.030

### Relevant DNELs of components

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
2-butoxyethanol	111-76-2	DNEL	125 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
2-butoxyethanol	111-76-2	DNEL	89 mg/kg	human, dermal	worker (industry)	acute - systemic effects

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### Relevant DNELs of components

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
			bw/day			fects
2-butoxyethanol	111-76-2	DNEL	98 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
2-butoxyethanol	111-76-2	DNEL	1,091 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
2-butoxyethanol	111-76-2	DNEL	246 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects
Alcohols, C12-15, ethoxylated	68131-39-5	DNEL	294 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
Alcohols, C12-15, ethoxylated	68131-39-5	DNEL	2,080 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
sodium nitrite	7632-00-0	DNEL	2 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
sodium nitrite	7632-00-0	DNEL	2 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
morpholine	110-91-8	DNEL	91 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
morpholine	110-91-8	DNEL	36 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
morpholine	110-91-8	DNEL	72 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects
morpholine	110-91-8	DNEL	0.84 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

### Relevant PNECs of components

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
2-butoxyethanol	111-76-2	PNEC	9.1 mg/l	aquatic organisms	water	intermittent release
2-butoxyethanol	111-76-2	PNEC	8.8 mg/l	aquatic organisms	freshwater	short-term (single instance)
2-butoxyethanol	111-76-2	PNEC	0.88 mg/l	aquatic organisms	marine water	short-term (single instance)
2-butoxyethanol	111-76-2	PNEC	463 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2-butoxyethanol	111-76-2	PNEC	34.6 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)

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Relevant PNECs of components						
Name of sub-stance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
2-butoxyethanol	111-76-2	PNEC	3.46 mg/kg	aquatic organ-isms	marine sediment	short-term (single instance)
2-butoxyethanol	111-76-2	PNEC	2.33 mg/kg	terrestrial organ-isms	soil	short-term (single instance)
Alcohols, C12-15, ethoxylated	68131-39-5	PNEC	0.051 mg/l	aquatic organ-isms	freshwater	short-term (single instance)
Alcohols, C12-15, ethoxylated	68131-39-5	PNEC	0.005 mg/l	aquatic organ-isms	marine water	short-term (single instance)
Alcohols, C12-15, ethoxylated	68131-39-5	PNEC	10 g/l	aquatic organ-isms	sewage treatment plant (STP)	short-term (single instance)
Alcohols, C12-15, ethoxylated	68131-39-5	PNEC	81.64 mg/kg	aquatic organ-isms	freshwater sedi-ment	short-term (single instance)
Alcohols, C12-15, ethoxylated	68131-39-5	PNEC	8.16 mg/kg	aquatic organ-isms	marine sediment	short-term (single instance)
Alcohols, C12-15, ethoxylated	68131-39-5	PNEC	1 mg/kg	terrestrial organ-isms	soil	short-term (single instance)
sodium nitrite	7632-00-0	PNEC	0.0054 mg/l	aquatic organ-isms	water	intermittent re-lease
sodium nitrite	7632-00-0	PNEC	0.005 mg/l	aquatic organ-isms	freshwater	short-term (single instance)
sodium nitrite	7632-00-0	PNEC	0.006 mg/l	aquatic organ-isms	marine water	short-term (single instance)
sodium nitrite	7632-00-0	PNEC	21 mg/l	aquatic organ-isms	sewage treatment plant (STP)	short-term (single instance)
sodium nitrite	7632-00-0	PNEC	0.019 mg/kg	aquatic organ-isms	freshwater sedi-ment	short-term (single instance)
sodium nitrite	7632-00-0	PNEC	0.022 mg/kg	aquatic organ-isms	marine sediment	short-term (single instance)
sodium nitrite	7632-00-0	PNEC	0.001 mg/kg	terrestrial organ-isms	soil	short-term (single instance)
morpholine	110-91-8	PNEC	0.163 mg/l	aquatic organ-isms	freshwater	short-term (single instance)
morpholine	110-91-8	PNEC	0.016 mg/l	aquatic organ-isms	marine water	short-term (single instance)
morpholine	110-91-8	PNEC	10 mg/l	aquatic organ-isms	sewage treatment plant (STP)	short-term (single instance)
morpholine	110-91-8	PNEC	1.83 mg/kg	aquatic organ-isms	freshwater sedi-ment	short-term (single instance)
morpholine	110-91-8	PNEC	0.183 mg/kg	aquatic organ-isms	marine sediment	short-term (single instance)



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### Relevant PNECs of components

Name of sub-stance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
morpholine	110-91-8	PNEC	0.269 mg/kg	terrestrial organisms	soil	short-term (single instance)

### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear protective gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	liquid, solid, gaseous (foam aerosol)
Color	not determined
Particle	not relevant (aerosol)
Odor	characteristic

#### Other safety parameters

pH (value)	not determined
Melting point/freezing point	-187.6 °C at 1,013 hPa
Initial boiling point and boiling range	-161.5 °C at 1,013 hPa
Flash point	-83 °C

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Evaporation rate	Not determined
Flammability (solid, gas)	flammable aerosol in accordance with GHS criteria

### Explosive limits

- Lower explosion limit (LEL)	5 vol%
- Upper explosion limit (UEL)	15 vol%
Vapor pressure	0.8 hPa at 20 °C
Density	not determined
Vapor density	this information is not available
Relative density	Information on this property is not available
Solubility(ies)	not determined

### Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	
Viscosity	not relevant (aerosol)
Explosive properties	none
Oxidizing properties	none

## 9.2 Other information

Propellant content	4 %
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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s). Gas under pressure. Risk of ignition.

If heated:

Danger of explosion, Gas under pressure, Danger of bursting container

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid



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Do not spray on an open flame or other ignition source. Keep away from heat.

Hints to prevent fire or explosion

Protect from sunlight.

### 10.5 Incompatible materials

Oxidizers

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

Acute toxicity

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

Acute toxicity estimate (ATE) of components

Name of substance	CAS No	Exposure route	ATE
2-butoxyethanol	111-76-2	oral	1,414 mg/kg
2-butoxyethanol	111-76-2	dermal	>2,000 mg/kg
Alcohols, C12-15, ethoxylated	68131-39-5	dermal	>2,000 mg/kg
disodium metasilicate	6834-92-0	oral	770 mg/kg
disodium metasilicate	6834-92-0	inhalation: vapor	>2.06 mg/l/4h
disodium metasilicate	6834-92-0	inhalation: dust/mist	0.5 mg/l/4h
sodium nitrite	7632-00-0	oral	100 mg/kg
morpholine	110-91-8	oral	1,900 mg/kg
morpholine	110-91-8	dermal	500 mg/kg
morpholine	110-91-8	inhalation: vapor	11 mg/l/4h

Skin corrosion/irritation

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

Serious eye damage/eye irritation

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

Respiratory or skin sensitization

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

Germ cell mutagenicity



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

### Carcinogenicity

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

#### IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

Name of substance	CAS No	Classification	Number
2-butoxyethanol	111-76-2	3	
morpholine	110-91-8	3	

#### Legend

3 Not classifiable as to carcinogenicity in humans

### Reproductive toxicity

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

### Specific target organ toxicity - single exposure

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

### Specific target organ toxicity - repeated exposure

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

### Aspiration hazard

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

## SECTION 12: Ecological information

### 12.1 Toxicity

Harmful to aquatic life.

#### Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
isobutane	75-28-5	LC50	49.9 mg/l	fish	96 h
isobutane	75-28-5	EC50	19.37 mg/l	algae	96 h
2-butoxyethanol	111-76-2	LC50	1,474 mg/l	fish	96 h
2-butoxyethanol	111-76-2	EC50	1,550 mg/l	aquatic invertebrates	48 h
2-butoxyethanol	111-76-2	ErC50	1,840 mg/l	algae	72 h
2-butoxyethanol	111-76-2	NOEC	88 mg/l	algae	72 h
Alcohols, C12-15, ethoxylated	68131-39-5	EC50	0.14 mg/l	aquatic invertebrates	48 h
Alcohols, C12-15, ethoxylated	68131-39-5	ErC50	0.75 mg/l	algae	72 h
disodium metasilicate	6834-92-0	LC50	310 mg/l	fish	96 h

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### Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
disodium metasilicate	6834-92-0	EC50	1,700 mg/l	aquatic invertebrates	48 h
sodium nitrite	7632-00-0	LC50	26.3 mg/l	fish	96 h
sodium nitrite	7632-00-0	EC50	15.4 mg/l	aquatic invertebrates	48 h
sodium nitrite	7632-00-0	ErC50	>100 mg/l	algae	72 h
sodium nitrite	7632-00-0	NOEC	100 mg/l	algae	72 h
morpholine	110-91-8	LC50	>100 mg/l	fish	96 h
morpholine	110-91-8	EC50	44.5 mg/l	aquatic invertebrates	48 h
morpholine	110-91-8	ErC50	64.63 mg/l	algae	72 h
morpholine	110-91-8	NOEC	18.8 mg/l	aquatic invertebrates	48 h

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of  $\geq 0.1\%$ .

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

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### SECTION 14: Transport information

#### 14.1 UN number

DOT	UN 1950
IMDG-Code	UN 1950
ICAO-TI	UN 1950

#### 14.2 UN proper shipping name

DOT	Aerosols
IMDG-Code	AEROSOLS
ICAO-TI	Aerosols, flammable, containing substances in class 8, packing group III

#### 14.3 Transport hazard class(es)

DOT	2.1 (8)
IMDG-Code	2.1 (8)
ICAO-TI	2.1 (8)

#### 14.4 Packing group

not assigned

#### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

#### 14.6 Special precautions for user

There is no additional information.

#### 14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

#### Information for each of the UN Model Regulations

DOT

#### Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Particulars in the shipper's declaration	UN1950, Aerosols, 2.1 (8)
Reportable quantity (RQ)	20,833 lbs (9,458 kg) (sodium nitrite) (ethylenediamine)
Danger label(s)	2.1+8



Special provisions (SP)	N82
ERG No	126

#### International Maritime Dangerous Goods Code (IMDG) - Additional information

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Particulars in the shipper's declaration UN1950, AEROSOLS, 2.1 (8), -83°C c.c.  
Marine pollutant -  
Danger label(s) 2.1+8



Special provisions (SP) 63, 190, 277, 327, 344, 381, 959  
Excepted quantities (EQ) E0  
Limited quantities (LQ) 1 L  
EmS F-D, S-U  
Stowage category -

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Particulars in the shipper's declaration UN1950, Aerosols, flammable, containing substances in class 8, packing group III, 2.1 (8)  
Danger label(s) 2.1+8



Special provisions (SP) A145, A167  
Excepted quantities (EQ) E0  
Limited quantities (LQ) 30 kg

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### National regulations (United States)

**Toxic Substance Control Act (TSCA)** all ingredients are listed or exempt from listing

#### Superfund Amendment and Reauthorization Act (SARA TITLE III )

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings

Name of substance	CAS No	Remarks	Effective date
sodium nitrite	7632-00-0		1995-01-01

#### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)



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### - List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
sodium nitrite	7632-00-0		1	100 (45,4)

#### Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

### Clean Air Act

Name of substance	CAS No	Type of registration	Basis for listing	Threshold quantity (lbs)
isobutane	75-28-5	Flammable substance	f	10000

#### Legend

f Flammable gas.

### Right to Know Hazardous Substance List

#### - Cleaning Product Right to Know Act Substance List (CA-RTK)

Name of substance	CAS No	Functionality	Authoritative Lists
Water	7732-18-5	solvents	
isobutane	75-28-5	propellant	EC Annex VI CMRs - Cat. 1A EC Annex VI CMRs - Cat. 1B
2-butoxyethanol	111-76-2	solvents	ATSDR Neurotoxics OEHA RELs
2-butoxyethanol			CA TACs
Alcohols, C12-15, ethoxylated	68131-39-5	surfactant	
disodium metasilicate	6834-92-0	pH Adjuster	
sodium nitrite	7632-00-0	preservative	
morpholine	110-91-8	corrosion inhibitor	
Sodium Lauryl Ether Sulfate	68585-34-2	surfactant	
Salt	7647-14-5	preservative	
Sodium sulfate	7757-82-6	filler	

#### - Toxic or Hazardous Substance List (MA-TURA)





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Name of substance	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Threshold	De Minimis Concentration Threshold
2-butoxyethanol		1022			1.0 %
sodium nitrite	7632-00-0				1.0 %

### - Hazardous Substances List (MN-ERTK)

Name of substance	CAS No	References	Remarks
2-butoxyethanol	111-76-2	A, O	skin
isobutane		N	

#### Legend

- A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH
- N National Institute for Occupational Safety and Health (NIOSH), "Recommendations for Occupational Safety and Health Standards," August 1988, available from NIOSH, Publications Dissemination Office, Division of Standards Development and Technology Transfer
- O Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part 1910, subpart Z, "Toxic and Hazardous Substances, 1990." General information: Minnesota Department of Labor and Industry, Occupational Safety and Health Division
- skin If a potential for absorption from skin contact merits special consideration, the word "skin" follows the substance name.

### - Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
2-butoxyethanol	111-76-2		CA F2
2-butoxyethanol			
morpholine	110-91-8		CO F3 R1
isobutane	75-28-5		F4
sodium nitrite	7632-00-0		

#### Legend

- CA Carcinogenic
- CO Corrosive
- F2 Flammable - Second Degree
- F3 Flammable - Third Degree
- F4 Flammable - Fourth Degree
- R1 Reactive - First Degree



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### - Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
ETHANOL, 2-BUTOXY-	111-76-2	
GLYCOL ETHERS		E
PROPANE, 2-METHYL-	75-28-5	
NITROUS ACID, SODIUM SALT	7632-00-0	E

#### Legend

E Environmental hazard

### - Hazardous Substance List (RI-RTK)

Name of substance	CAS No	References
2-butoxyethanol	111-76-2	T
2-butoxyethanol	111-76-2	T
morpholine	110-91-8	T, F
morpholine	110-91-8	T, F
isobutane	106-97-8	T, F

#### Legend

F Flammability (NFPA®)

T Toxicity (ACGIH®)

### California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

#### Proposition 65 List of chemicals

Name acc. to inventory	CAS No	Remarks	Type of the toxicity
ethylene glycol monomethyl ether	109-86-4		developmental, male
1,4-dioxane	123-91-1		cancer

### Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

none of the ingredients are listed

### Industry or sector specific available guidance(s)

#### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.



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Category	Rating	Description
Chronic	/	none
Health	0	no significant risk to health
Flammability	1	material that must be preheated before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

### NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	1	material that must be preheated before ignition can occur
Health	0	material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

### National inventories

Country	Inventory	Status
AU	AIIC	not all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	not all ingredients are listed
EU	REACH Reg.	not all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed (ACTIVE)

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### Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information, including date of preparation or last revision

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.2		- Precautionary statements: change in the listing (table)	yes
2.3	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$ .	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$ .	yes
2.3	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$ .	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$ .	yes
3.2		Description of the mixture: change in the listing (table)	yes
3.2		Remarks: For full text of abbreviations: see SECTION 16	yes
5.2	Special hazards arising from the substance or mixture: Contact with the product can cause burns and/or frostbite. Contains gas under pressure; may explode if heated.	Special hazards arising from the substance or mixture: In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Contact with the product can cause burns and/or frostbite. Contains gas under pressure; may explode if heated.	yes
7.1	- Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Use only in well-ventilated areas.	- Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Take precautionary measures against static discharge. Use	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
		only in well-ventilated areas. Ground/bond container and receiving equipment.	
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
8.1		Biological limit values: change in the listing (table)	yes
8.2	Respiratory protection: In case of inadequate ventilation wear respiratory protection.		yes
9.1	Physical state: aerosol (foam aerosol)	Physical state: liquid, solid, gaseous (foam aerosol)	yes
11.1	Acute toxicity: Shall not be classified as acutely toxic.	Acute toxicity: Based on available data, the classification criteria are not met.	yes
11.1		Acute toxicity estimate (ATE) of components: change in the listing (table)	yes
11.1	Skin corrosion/irritation: Shall not be classified as corrosive/irritant to skin.	Skin corrosion/irritation: Based on available data, the classification criteria are not met.	yes
11.1	Serious eye damage/eye irritation: Shall not be classified as seriously damaging to the eye or eye irritant.	Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.	yes
11.1	Respiratory or skin sensitization: Shall not be classified as a respiratory or skin sensitizer.	Respiratory or skin sensitization: Based on available data, the classification criteria are not met.	yes
11.1	Germ cell mutagenicity: Shall not be classified as germ cell mutagenic.	Germ cell mutagenicity: Based on available data, the classification criteria are not met.	yes
11.1	Carcinogenicity: Shall not be classified as carcinogenic.	Carcinogenicity: Based on available data, the classification criteria are not met.	yes
11.1	Reproductive toxicity: Shall not be classified as a reproductive toxicant.	Reproductive toxicity: Based on available data, the classification criteria are not met.	yes
11.1	Specific target organ toxicity - single exposure: Shall not be classified as a specific target organ toxicant (single exposure).	Specific target organ toxicity - single exposure: Based on available data, the classification criteria are not met.	yes
11.1	Specific target organ toxicity - repeated exposure: Shall not be classified as a specific target organ toxicant (repeated exposure).	Specific target organ toxicity - repeated exposure: Based on available data, the classification criteria are not met.	yes
11.1	Aspiration hazard: Shall not be classified as presenting an aspiration hazard.	Aspiration hazard: Based on available data, the classification criteria are not met.	yes



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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
12.5	Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$ .	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$ .	yes
12.6	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$ .	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$ .	yes
14.2	ICAO-TI: Aerosols, flammable	ICAO-TI: Aerosols, flammable, containing substances in class 8, packing group III	yes
14.3	DOT: 2.1	DOT: 2.1 (8)	yes
14.3	IMDG-Code: 2.1	IMDG-Code: 2.1 (8)	yes
14.3	ICAO-TI: 2.1	ICAO-TI: 2.1 (8)	yes
14.7	Particulars in the shipper's declaration: UN1950, Aerosols, 2.1	Particulars in the shipper's declaration: UN1950, Aerosols, 2.1 (8)	yes
14.7	Danger label(s): 2.1	Danger label(s): 2.1+8	yes
14.7		Danger label(s): change in the listing (table)	yes
14.7	Particulars in the shipper's declaration: UN1950, AEROSOLS, 2.1, -83°C c.c.	Particulars in the shipper's declaration: UN1950, AEROSOLS, 2.1 (8), -83°C c.c.	yes
14.7	Danger label(s): 2.1	Danger label(s): 2.1+8	yes
14.7		Danger label(s): change in the listing (table)	yes
14.7	Particulars in the shipper's declaration: UN1950, Aerosols, flammable, 2.1	Particulars in the shipper's declaration: UN1950, Aerosols, flammable, containing substances in class 8, packing group III, 2.1 (8)	yes
14.7	Danger label(s): 2.1	Danger label(s): 2.1+8	yes
14.7		Danger label(s): change in the listing (table)	yes
15.1	Toxic Substance Control Act (TSCA): not all ingredients are listed (ACTIVE)	Toxic Substance Control Act (TSCA): all ingredients are listed or exempt from listing	yes
15.1		Cleaning Product Right to Know Act Substance List (CA-RTK): change in the listing (table)	yes
15.1		Hazardous Substance List (NJ-RTK): change in the listing (table)	yes



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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
15.1		Hazardous Substance List (Chapter 323) (PA-RTK): change in the listing (table)	yes
15.1		NPCA-HMIS® III: change in the listing (table)	yes
15.1		National inventories: change in the listing (table)	yes

### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.  
Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG).  
Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties: The classification is based on tested mixture.  
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.