

acc. to 29 CFR 1910.1200 App D

Armor All Heavy Duty Wheel & Tire Cleaner - Aerosol

Version number: GHS 8.0 Revision: 2021-09-14 Replaces version of: 2020-10-21 (GHS 7)

SECTION 1: Identification

1.1 Product identifier

Trade name Armor All Heavy Duty Wheel & Tire Cleaner -

Aerosol

Alternative number(s) 070612191403

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)

Website: http://data.energizer.com

1.4 Emergency telephone number

Emergency information service 1-314-985-1511 Int'l: 1-800-526-4727

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
A.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
A.5	germ cell mutagenicity	1B	Muta. 1B	H340
A.6	carcinogenicity	1A	Carc. 1A	H350
B.3	flammable aerosol	1	Flam. Aerosol 1	H222
B.5	gases under pressure	С	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

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

- Signal word danger

- Pictograms

GHS02, GHS04, GHS07,

GHS08







- Hazard statements

H222 Extremely flammable aerosol.

H280 Contains gas under pressure; may explode if heated.

H332 Harmful if inhaled.

H340 May cause genetic defects.

H350 May cause cancer.

- Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P202 Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. No smoking. P210

P211 Do not spray on an open flame or other ignition source. P251 Pressurized container: Do not pierce or burn, even after use.

Avoid breathing mist/vapors. P261

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection. P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.

Call a poison center/doctor if you feel unwell. P312

Store locked up. P405

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. P501 Dispose of contents/container in accordance with national regulations.

- Hazardous ingredients for labelling

isobutane, Sodium Lauroyl Sarcosinate, disodium metasilicate

2.3 Other hazards

Hazards not otherwise classified

Harmful to aquatic life (GHS category 3: aquatic toxicity - acute).

SECTION 3: Composition/information on ingredients

3.1 **Substances**

Not relevant (mixture)

3.2 Mixtures

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Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
isobutane	CAS No 75-28-5	5 – < 10	Muta. 1B / H340 Carc. 1A / H350 Flam. Gas 1 / H220 Press. Gas C / H280	
Sodium Lauroyl Sarcosin- ate	CAS No 137-16-6	1-<5	Acute Tox. 2 / H330	
disodium metasilicate	CAS No 6834-92-0	<1	Acute Tox. 4 / H302 Acute Tox. 3 / H331 Skin Corr. 1B / H314 STOT SE 3 / H335	

For full text of abbreviations: see SECTION 16.

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

Contact with the product can cause burns and/or frostbite. Contains gas under pressure; may explode if heated.

Hazardous combustion products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2)

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.

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.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation Use local and general ventilation. Use only in well-ventilated areas.

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

- Ventilation requirements

Keep any substance that emits harmful vapors or gases in a place that allows these to be permanently extracted.

- 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)

Coun try	Name of agent	CAS No	Iden- tifier	TWA [ppm]	TWA [mg/ m³]	STEL [ppm]	STEL [mg/ m³]	Ceil- ing-C [ppm]	Ceil- ing-C [mg/ m³]	Nota tion	Sourc e
US	isobutane	75-28-5	REL	800 (10 h)	1,900 (10 h)						NIOSH REL

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Occupational exposure limit values (Workplace Exposure Limits)

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US	isobutane	75-28-5	TLV®			1,000				E	AC- GIH® 2021

Notation

Ceiling-C ceiling va

ceiling value is a limit value above which exposure should not occur

explosive

STEL short-terr

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

Relevant DNELs of components of the mixture

Name of sub- stance	CAS No	End- point	Threshold level	Protection goal, route of expos- ure	Used in	Exposure time
Sodium Lauroyl Sar- cosinate	137-16-6	DNEL	70.53 mg/ m³	human, inhalatory	worker (industry)	chronic - systemic effects
Sodium Lauroyl Sar- cosinate	137-16-6	DNEL	20 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture

Name of sub- stance	CAS No	End- point	Threshold level	Organism	Environmental compartment	Exposure time
Sodium Lauroyl Sar- cosinate	137-16-6	PNEC	0.009 ^{mg} / _l	aquatic organ- isms	freshwater	short-term (single instance)
Sodium Lauroyl Sar- cosinate	137-16-6	PNEC	0.001 ^{mg} / _l	aquatic organ- isms	marine water	short-term (single instance)
Sodium Lauroyl Sar- cosinate	137-16-6	PNEC	3 ^{mg} / _l	aquatic organ- isms	sewage treatment plant (STP)	short-term (single instance)
Sodium Lauroyl Sar- cosinate	137-16-6	PNEC	0.064 ^{mg} / _{kg}	aquatic organ- isms	freshwater sedi- ment	short-term (single instance)
Sodium Lauroyl Sar- cosinate	137-16-6	PNEC	0.006 ^{mg} / _{kg}	aquatic organ- isms	marine sediment	short-term (single instance)
Sodium Lauroyl Sar- cosinate	137-16-6	PNEC	0.008 ^{mg} / _{kg}	terrestrial organ- isms	soil	short-term (single instance)

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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.

Respiratory protection

During spraying wear suitable respiratory equipment.

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	aerosol (spray aerosol)
Color	not determined
Particle	not relevant (aerosol)
Odor	characteristic

Other safety parameters

pH (value)	not determined
Melting point/freezing point	-187.6 °C
Initial boiling point and boiling range	-161.5 °C at 1,013 hPa
Flash point	-88.6 °C at 1,013 hPa

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23 VELSION OI. 2020-10-21 (dris 7)	
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	0.001 Pa at 25 °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
Other information	
Propellant content	6 %

SECTION 10: Stability and reactivity

10.1 Reactivity

9.2

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

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10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

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

Harmful if inhaled.

- Acute toxicity estimate (ATE)

Inhalation: dust/mist 4.535 ^{mg}/_I/4h

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Sodium Lauroyl Sarcosinate	137-16-6	inhalation: dust/mist	>0.05 ^{mg} / _l /4h
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

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

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Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

May cause genetic defects.

Carcinogenicity

May cause cancer.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

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
Sodium Lauroyl Sarcos- inate	137-16-6	LC50	107 ^{mg} / _l	fish	96 h
Sodium Lauroyl Sarcos- inate	137-16-6	EC50	29.7 ^{mg} / _l	aquatic invertebrates	48 h
Sodium Lauroyl Sarcos- inate	137-16-6	ErC50	79 ^{mg} / _l	algae	72 h
Sodium Lauroyl Sarcos- inate	137-16-6	NOEC	50 ^{mg} / _l	fish	96 h
Sodium Lauroyl Sarcos- inate	137-16-6	LOEC	29 ^{mg} / _l	algae	72 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	LC50	310 ^{mg} / _l	fish	96 h
disodium metasilicate	6834-92-0	EC50	1,700 ^{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

Data are not available.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

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

14.3 Transport hazard class(es)

DOT 2.1 IMDG-Code 2.1 ICAO-TI 2.1

14.4 Packing group not assigned

14.5 Environmental hazards non-environmentally hazardous acc. to the danger-

ous goods regulations

14.6 Special precautions for user

There is no additional information.

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

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

Reportable quantity (RQ) 1,299,039 lbs (589,764 kg) (sodium hydroxide)

Danger label(s) 2.1



Special provisions (SP) N82 ERG No 126

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International Maritime Dangerous Goods Code (IMDG) - Additional information

Particulars in the shipper's declaration UN1950, AEROSOLS, 2.1, -88.6°C c.c.

Marine pollutant -

Danger label(s) 2.1



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, 2.1

Danger label(s) 2.1



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)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

- Specific Toxic Chemical Listings (EPCRA Section 313) none of the ingredients are listed

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Clean Air Act

Name of substance	CAS No	Type of registra- tion	Basis for listing	Threshold quantity (lbs)
isobutane	75-28-5	Flammable sub- stance	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
Sodium Lauroyl Sarcosinate	137-16-6	surfactant	
Diethylene glycol monobutyl ether		solvents	CA TACs
Lauryl amine oxide	1643-20-5	fragrance	
Tetrasodium ethylenediamine tetraacetate	64-02-8	chelating agent	
Myristamine Oxide	3332-27-2	surfactant	
disodium metasilicate	6834-92-0	pH Adjuster	
sodium hydroxide	1310-73-2	pH Adjuster	OEHHA RELS
Sodium Laurate	629-25-4	surfactant	

- Hazardous Substances List (MN-ERTK)

Name of substance	CAS No	References	Remarks
isobutane		N	

Legend

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

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- Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
isobutane	75-28-5		F4

Legend

F4 Flammable - Fourth Degree

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

Name acc. to inventory	CAS No	Classification
PROPANE, 2-METHYL-	75-28-5	

- Hazardous Substance List (RI-RTK)

Name of substance	CAS No	References
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

none of the ingredients are listed

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.

Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	1	irritation or minor reversible injury possible
Flammability	4	material that rapidly or completely vaporizes at atmospheric pressure and normal ambient temperature or that is readily dispersed in air and burn readily
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	-	

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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	4	material that rapidly or completely vaporizes at atmospheric pressure and normal ambient temperature or that is readily dispersed in air and burn readily
Health	2	material that, under emergency conditions, can cause temporary incapacitation or residual injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

National inventories

Country	Inventory	Status
AU	AICS	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	not all ingredients are listed
JP	CSCL-ENCS	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	not all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

Legend

Australian Inventory of Chemical Substances
Chemical Inventory and Control Regulation
List of Existing and New Chemical Substances (CSCL-ENCS)
Domestic Substances List (DSL)
EC Substance Inventory (EINECS, ELINCS, NLP)
Inventory of Existing Chemical Substances Produced or Imported in China AICS CICR

CSCL-ENCS

DSL

ECSI

IECSC

INSQ National Inventory of Chemical Substances

ISHA-ENCS Inventory of Existing and New Chemical Substances (ISHA-ENCS)

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KECI Korea Existing Chemicals Inventory NZIoC

New Zealand Inventory of Chemicals
Philippine Inventory of Chemicals and Chemical Substances (PICCS) **PICCS**

REACH Reg. REACH registered substances

Taiwan Chemical Substance Inventory TCSI

Toxic Substance Control Act **TSCA**

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- relev- ant
2.1		Classification acc. to OSHA "Hazard Communica- tion Standard" (29 CFR 1910.1200): change in the listing (table)	yes
2.1	The most important adverse physicochemical, human health and environmental effects: Delayed or immediate effects can be expected after short or long-term exposure. Contains gas under pressure; may explode if heated.	The most important adverse physicochemical, human health and environmental effects: Contains gas under pressure; may explode if heated.	yes
2.2	- Signal word: warning	- Signal word: danger	yes
2.2		- Hazard statements: change in the listing (table)	yes
2.2		- Precautionary statements: change in the listing (table)	yes
2.2		- Hazardous ingredients for labelling: isobutane, Sodium Lauroyl Sarcosinate, disodium metasilicate	yes
2.3	Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.		yes
3.2		Description of the mixture: change in the listing (table)	yes
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
9.1	Color: various	Color: not determined	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
9.1		Particle: not relevant (aerosol)	yes
9.1	Melting point/freezing point: -159.4 °C	Melting point/freezing point: -187.6 °C	yes
9.1	Flash point: not determined	Flash point: -88.6°C at 1,013 hPa	yes
9.1	Lower explosion limit (LEL): 3 vol%	Lower explosion limit (LEL): 5 vol%	yes
9.1	Upper explosion limit (UEL): 12.5 vol%	Upper explosion limit (UEL): 15 vol%	yes
9.1	Auto-ignition temperature: not determined	Auto-ignition temperature	yes
11.1		- Acute toxicity estimate (ATE): change in the listing (table)	yes
11.1		Acute toxicity estimate (ATE) of components of the mixture: change in the listing (table)	yes
11.1	Serious eye damage/eye irritation: Causes serious eye irritation.	Serious eye damage/eye irritation: Shall not be classified as seriously damaging to the eye or eye irritant.	yes
11.1	Germ cell mutagenicity: Shall not be classified as germ cell mutagenic.	Germ cell mutagenicity: May cause genetic defects.	yes
11.1	Carcinogenicity: Shall not be classified as carcinogenic.	Carcinogenicity: May cause cancer.	yes
11.1	Specific target organ toxicity - repeated exposure: May cause damage to organs through prolonged or repeated exposure.	Specific target organ toxicity - repeated exposure: Shall not be classified as a specific target organ toxicant (repeated exposure).	yes
12.1		Aquatic toxicity (acute) of components of the mix- ture: change in the listing (table)	yes
12.7	Other adverse effects	Other adverse effects: Data are not available.	yes
14.1	UN number: 1950	UN number	yes
14.1		DOT: UN 1950	yes
14.1		IMDG-Code: UN 1950	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
14.1		ICAO-TI: UN 1950	yes
14.2	UN proper shipping name: Aerosols	UN proper shipping name	yes
14.2		DOT: Aerosols	yes
14.2		IMDG-Code: AEROSOLS	yes
14.2		ICAO-TI: Aerosols, flammable	yes
14.3	Class: 2.1 (gases) (aerosol) (flammable)		yes
14.3		DOT: 2.1	yes
14.3		IMDG-Code: 2.1	yes
14.3		ICAO-TI: 2.1	yes
14.4	Packing group: not assigned to a packing group	Packing group: not assigned	yes
14.7	Index number: 1950		yes
14.7	Proper shipping name: Aerosols		yes
14.7	Reportable quantity (RQ): 1,639,344 lbs (744,262 kg) (sodium hydroxide)	Reportable quantity (RQ): 1,299,039 lbs (589,764 kg) (sodium hydroxide)	yes
14.7	Class: 2.1		yes
14.7		Danger label(s): change in the listing (table)	yes
14.7	UN number: 1950		yes
14.7	Proper shipping name: AEROSOLS		yes
14.7	Class: 2.1		yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
14.7	Particulars in the shipper's declaration: UN1950, AEROSOLS, 2.1	Particulars in the shipper's declaration: UN1950, AEROSOLS, 2.1, -88.6°C c.c.	yes
14.7	UN number: 1950		yes
14.7	Proper shipping name: Aerosols, flammable		yes
14.7	Class: 2.1		yes
15.1		Cleaning Product Right to Know Act Substance List (CA-RTK): change in the listing (table)	yes
15.1	Toxic or Hazardous Substance List (MA-TURA)		yes
15.1		Toxic or Hazardous Substance List (MA-TURA): change in the listing (table)	yes
15.1		Hazardous Substances List (MN-ERTK): change in the listing (table)	yes
15.1		Hazardous Substance List (NJ-RTK): change in the listing (table)	yes
15.1		Hazardous Substance List (Chapter 323) (PA-RTK): change in the listing (table)	yes
15.1		Hazardous Substance List (RI-RTK): change in the listing (table)	yes
15.1		Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, para- graphs 34 (list I) and 35 (list II): none of the ingredients are listed	yes
15.1		NPCA-HMIS® III: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2021	From ACGIH®, 2021 TLVs® and BEIs® Book. Copyright 2021. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
Acute Tox.	Acute toxicity

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Abbr.	Descriptions of used abbreviations
ATE	Acute Toxicity Estimate
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
ERG No	Emergency Response Guidebook - Number
Flam. Gas	Flammable gas
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Natio
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 lethality during a specified time interval
LOEC	Lowest Observed Effect Concentration
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Muta.	Germ cell mutagenicity
NFPA®	National Fire Protection Association (United States)
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)

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Abbr.	Descriptions of used abbreviations
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Press. Gas	Gas under pressure
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

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).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.

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Code	Text
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350	May cause cancer.

Disclaimer

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

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