

SAFETY DATA SHEET

Safety data Sheet according to (EC No. 1907/2006 (REACH))

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier:**

Formula 6

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

against: Air spray Aerosol for removing dust.

1.3. Details of the supplier of the safety data sheet:

AM Denmark A/S

Skudehavnsvej 1 Phone: +45 - 49 14 22 00

DK-2150 Nordhavn Fax.: +45 - 49 14 11 81

Denmark

(e-mail): am@am-denmark.com

1.4. Emergency telephone:

+45 82 12 12 12 (Poison Line (Denmark) – 24-hour service)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture:**

Extremely flammable aerosol.

EU (67/548 or 199/45): F+;R12

CLP (1272/2008): Flam. Aer. 1;H222 H229

2.2. Label elements:**WARNING**

H222: Extremely flammable.

H229: Pressurized container: may burst if heated

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

P102: Keep out of reach of children.

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+P412: Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122°F.

Consumer use, add the following safety sentences:

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

P102: Keep out of reach of children.

P501: Dispose of contents/container according to national legislation.

2.3. Other hazards: None known.

PBT/vPvB: The ingredients are not considered PBT/vPvB according to criteria in Annex XIII.

SECTION 3: Composition/information on ingredients**3.2. Mixtures:**

% w/w	Name	CAS	EC-no.	Index-no.	REACH reg.no.	Classification
25-50	Isobuthane	75-28-5	200-87-2	601-004-0-0	-	EU: F+;R12 CLP: Flam. Gas 1;H220 Press. Gas;H280
25-50	Propane	74-98-6	200-827-9	601-003-00-5-		EU: F+;R12 CLP: Flam. Gas 1;H220 Press. Gas;H280

Wording of hazard statements – see section 16.

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SECTION 4: First-aid measures

4.1. Description of first aid measures:

Inhalation: Remove to fresh air. **In light cases:** Keep at rest under supervision. In case of discomfort: Seek medical advice. **Severe cases:** Place the person in recovery position with head and keep warm. If respiration has stopped, administer artificial breath. Call a doctor or ambulance.

Skin contact: Remove contaminated clothing. Rinse the skin and wash thoroughly with soap and water. The skin rubbed with a clove cream. If irritation persists: Seek medical attention.

Eye contact: Flush with water or physiological salt water, holding eye lids open, remember to remove contact lenses, if any. If irritation persists: Seek medical advice.

Ingestion: Rinse the mouth thoroughly. Do not induce vomiting, as it increases the risk of getting the product into the lungs. If vomiting occurs, keep head down to avoid vomit in the lungs. Immediately call ambulance.

Burns: Flush with water until pain ceases. While flushing, remove unburned clothing from the burned area. If medical treatment is necessary, continue rinsing until a doctor takes over the treatment.

4.2. Most important symptoms and effects, both acute and delayed:

Potential irritation of the lungs, skin and eyes, headache, dizziness, vomiting, nausea and possible unconsciousness. frequent inhalation of even small amounts of volatile substance can damage include liver, kidneys and central nervous system (brain damage).

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

Show this safety data sheet to the doctor or emergency room.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media:

Water spray (never water jet - spreads the fire), foam, powder or carbon dioxide.

5.2. Special hazards arising from the substance or mixture:

Spray cans may explode in a fire. Avoid inhalation of fumes. Strong heating or fire can create poisonous emissions. Primary carbon oxides.

5.3. Advice for firefighters:

Remove containers if possible. Use soft water SPRAY only to cool containers! Use breathing apparatus when heavy smoke.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment - see section 8. Ventilate area. Limit distribution. Remove sources of ignition.

6.2. Environmental precautions:

Do not empty into drains - see section 12. Inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up:

Take up with absorbent material (e.g. general-purpose binder) and place in marked container for disposal. Clean with water. Further handling of spillage - see section 13.

6.4. Reference to other sections:

See above.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:

Avoid breathing vapors. Provide sufficient ventilation. Avoid contact with skin, eyes and clothing. After use, wash with water and mild soap. There must be access to emergency shower. Do not use near fire, sparks or hot surfaces. No smoking. If the work is classified acc. To / DEMA provisions, electrical installations etc. comply with Security Agency regulations. Usually considered a fire and explosion risk effectively prevented when vapor concentration is below 25% of the lower explosive limit. Good practice is no more than 10% of the lower explosive limit.

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After use, wash with plenty of soap and water, skin grease hand lotion. (Directive 92/85/EEC).

Flammable, do not use near fire or sparks. Do not smoke.

7.2. Conditions for safe storage, including any incompatibilities:

Aerosol cans must be stored securely, so they are the least possible environmental hazard, not exposed to damage or other damage and can be easily removed by fire. On a dry, cool (10-30 ° C) and well ventilated place, not in direct sunlight. Fireproof. Emergency Management Agency guidelines for flammable liquids must be strictly followed, including rules for flammable stock.

Fire rating: I-1 (flash point <21 ° C, miscible with water). 1 storage unit = 1 liter.

Safely, out of reach of unauthorized persons, away from food, feed, drugs and the like

7.3. Specific end use(s):

See section 1.

SECTION 8: Exposure controls/Personal protection**8.1. Control parameters:**

Occupational exposure limits (EH507/2011): 1000 ppm = 1800 mg/m3 (Propane)

500 ppm = 1200 mg/m3 (Buthane)

DNEL/PNEC: No CSR.

8.2. Exposure controls:

Appropriate engineering controls: Provide efficient ventilation.

Personal protective equipment:

Respiratory protection:

Normally not necessary by adequate ventilation or short-term use. In case of working in not adequate ventilated areas, use an approved mask (EN140) with a gas filter: AX/P12 (brown- for organic vapors/particles). The filter has a limited lifetime and must be changed. Read the instruction.

Skin protection:

Wear protective gloves (EN374) of e.g. nitrile or butyl. Breakthrough time: App. 3 hours (nitrile and butyl). Alttox reduced the glove guide breakthrough with about a factor of 3 as the standard test EN 374-3 were made at 23 ° C, while the temperature in the practice in the glove is about 35 ° C. Moreover stretched elastic gloves when using, so glove thickness and hence the breakthrough time is reduced. Breakthrough time: 3 hours.

Eye protection:

Use safety goggles (EN166) when there is a risk of eye contact.

Environmental exposure controls:

None particular.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties:**

Appearance:	Clear colourless liquid
Odour:	Not determined
Odour threshold:	Not determined
pH:	Not determined
Melting point/freezing point (°C):	Not determined
Initial boiling point and boiling range (°C):	- 47°C
Flash point (°C):	Flammable gas (-100°C)
Evaporation rate:	Emmediate > -31°C
Flammability (solid, gas):	455
Upper/lower flammability or explosive limits (vol-%):	1.8 – 11.1
Vapour pressure:	9
Relative density:	Heavier than air
Solubility:	Partly soluble in water
Partition coefficient: n-octanol/water:	Not determined
Auto-ignition temperature (°C):	455°C
Relative density (g/ml):	0.6
Viscosity:	Not determined

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Explosive/ oxydating properties

Not determined

9.2. Other information: None relevant**SECTION 10: Stability and reactivity****10.1. Reactivity:**

No available information.

10.2. Chemical stability:

Stable under normal conditions (see section 7).

10.3. Possibility of hazardous reactions:

Vapours can be ignited by a spark, a hot surface or a glow. The fumes can form explosive mixtures with air. May travel considerable distance to an ignition source and cause setbacks. The vapors are at normal temperature heavier than air and may along the ground, etc.

10.4. Conditions to avoid:

Formation of sparks and glows. Excessive heating and sources of ignition. Do not puncture. Avoid direct sunlight and temperatures above 50°C.

10.5. Incompatible materials:

Reducing agents, strong oxidizing agents, acids and bases.

10.6. Hazardous decomposition products:

When heated to high temperatures (decomposition) it emits toxic fumes such as carbon oxides.

SECTION 11: Toxicological information**11.1. Information on toxicological effects:**

Hazard class	Data (Isobuthane/Buthane)	Test	Reference
Acute toxicity:			
Inhalation	LC50 (rat) = 658mg/L/4h	No info	IUCLID
Dermal	LD50 (rabbit) = 12800 mg/kg (Propan-2-ol)	-	-
Oral	LD50 (rat) = 4570 mg/kg (Propan-2-ol)	-	-
Corrosion/irritation:	No eye irritation, (rabbit) Skin irritation (rabbit) (Propane)	No info	IUCLID
Sensitization:	No Available data	-	-
CMR:	No mutagen effect No reproductive toxicity in animal studies No carcinogenic effect	Ames No info On info	IUCLID IUCLID IUCLID

Information on likely routes of exposure: Skin, lungs and gastrointestinal tract.

Symptoms:

Inhalation: May cause respiratory irritation, headache, drowsiness, dizziness and at high concentrations ruslignende symptoms and unconsciousness.

Skin: May cause irritation and degreasing with redness. Repeated exposure may cause skin dryness or cracking.

Eyes: May cause irritation with redness.

Ingestion: Irritating to the mucous membranes of the gastrointestinal tract. There may be nausea, vomiting, and headache.

Chronic Effects: Inhalation of high concentrations or frequent inhalation of even small amounts of volatile substances may damage on liver, kidneys and central nervous system (brain damage).

Prolonged or repeated skin contact can cause dry and cracked skin at risk for itching and inflammation.

Animal experiments with propane and isobutane suggests that they may affect the heart muscle.

SECTION 12: Ecological information**12.1. Toxicity:**

Aquatic	Data	Test (Media)	Reference
Fish	LC50 (Pimephales promelas, 96h) > 1000 mg/l (Isobuthane & Propane)	No info (FW)	UCLID

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Crustacean	EC50 (Daphnia magna, 48h) > 14,22 mg/l (Isobuthane & Propane)	ECOSAR Calc.	ECHA diss.
Algae	EC50 (green algae, 96H) = 7.7 mg/l	ECOSAR Calc.	ECHA diss.

12.2. Persistence and degradability:

Isobuthane & Propane is readily biodegradable (OECD 301).

12.3. Bioaccumulative potential:

Log Kow = 2.38 (propane) – No significant bioaccumulation is expected.

Log Kow = 2.89 (Buthane) – No significant bioaccumulation is expected.

12.4. Mobility in soil:

Propane and Buthane are gasses at normal pressure and mixes quickly with the surrounding air.

Koc < 10 – Very large mobility expected in soil.

12.5. Results of PBT and vPvB assessment:

The ingredients are not considered PBT/vPvB according to criteria in Annex XIII.

12.6. Other adverse effects:

None known.

SECTION 13: Disposal considerations**13.1. Waste treatment methods:**

Aerosol cans must not be punctured. The chemical should be considered hazardous waste. Use the municipal collection and pickup system.

Waste code: EWC code:

Z 16 05 04 (residues)

H 15 02 02 (absorbent contaminated with the substance)

SECTION 14: Transport information

14.1. UN-no.: 1950

14.2. UN proper shipping name: AEROSOLS, Flammable

14.3. Transport hazard class(es): 2

14.4. Packing group: 5F (ADR/RID)

14.5. Environmental hazards: No.

14.6. Special precautions for user: None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not relevant.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:**

Must not be used by persons under 18 years of age. At a workplace must ensure that employees are not exposed to substances which may pose a risk pregnancy or lactation (see. WEA bek. on performance of work).

15.2. Chemical Safety Assessment:

No CSR.

SECTION 16: Other information**R-phrases and hazard statement mentioned in section 2 and 3:**

R12: Extremely flammable

H220: Extremely flammable gas.

H222: Extremely flammable aerosol

H229: Pressurized container: may burst if heated.

H280: Contains gas under pressure, may explode if heated

Abbreviations:

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CMR = Carcinogenicity, mutagenicity and reproductive toxicity.

CSR = Chemical Safety Report

DNEL = Derived No-Effect Level

EC50 = Effect Concentration 50 %

ECB = European Chemicals Bureau.

ECHA = European Chemicals Agency

FW = Fresh Water

LC50 = Lethal Concentration 50 %

LD50 = Lethal Dose 50 %

PBT = Persistent, Bioaccumulative, Toxic

PNEC = Predicted No-Effect Concentration

vPvB = very Persistent, very Bioaccumulative

Litterature:

ECHA diss. = REACH Registreringsdossier from ECHA's homepage.

IUCLID = International Uniform Chemical Database Information (International kemikaliedatabase med iMerck (Safety Data Sheet)

RTECS = Register of Toxic Effects of Chemical Substances (database over toksiske effekter af kemiske stoffer)

Training advice:

No special training is required. However, the user should be well instructed in the execution of the task, be familiar with this Safety Data Sheet and have normal training in the use of personal protective equipment.

Changes since the previous edition:

All sections, according to 453/2010

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