SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

09753002 - SPARE-CARTRIDGE HOT-AIR PISTOL

Version 2.0	Revision Date 15.07.2014 Date of last issue: 01.06.2012 Date of first issue: 11.06.2010	Print Date 18.07.2014	DE / EN

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Commercial Product Name	:	SPARE-CARTRIDGE HOT-AIR PISTOL
Product code	:	09753002
SDS-Identcode	:	10039051

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

Use of the Substance/Mixture	:	Gas for further use and processing

1.3 Details of the supplier of the safety data sheet

Company	:	Adolf Wuerth GmbH & Co. KG Reinhold-Würth-Str. 12-17 74653 Künzelsau Germany
Telephone	:	+49 7940 15 0
Telefax	:	+49 7940 15 10 00
Responsible/issuing person	:	E-mail address: prodsafe@wuerth.com

1.4 Emergency telephone number

Giftnotrufzentrale Berlin
+49 30 30686 790

Gesellschaft (07:00 – 18:00 Uhr)
+49 7940 15 2552

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable gases, Category 1 Gases under pressure, Liquefied gas	H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.

Classification (67/548/EEC, 1999/45/EC)

Extremely flammable	R12: Extremely flammable.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:		
Signal word	:	Danger	
Hazard statements	:	H220	Extremely flammable gas.
		H280	Contains gas under pressure; may explode if heated.
Precautionary statements	:	**Prevention:**	
		P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
		Response:	
		P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
		P381	Eliminate all ignition sources if safe to do so.
		Storage:	
		P410 + P403	Protect from sunlight. Store in a well-ventilated place.

Limited labelling (<= 125 ml)

Hazard pictograms	:		
Signal word	:	Danger	
Hazard statements	:	H220	Extremely flammable gas.
Precautionary statements	:	**Prevention:**	
		P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
		Response:	
		P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
		P381	Eliminate all ignition sources if safe to do so.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (1272/2008/EC)	Concentration [%]
butane	106-97-8 203-448-7	F+; R12	Flam. Gas 1; H220 Press. Gas Liquefied gas; H280	>= 60 - < 65
propane	74-98-6 200-827-9	F+; R12	Flam. Gas 1; H220	>= 40 - < 45

For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : If you feel unwell, seek medical advice (show the label where possible). First aider needs to protect himself. Move out of dangerous area. Never give anything by mouth to an unconscious person. Take off contaminated clothing and shoes immediately. May cause frostbite.

If inhaled : If breathed in, move person into fresh air. In the case of inhalation of aerosol/mist consult a physician if necessary. Keep patient warm and at rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

In case of skin contact : Do NOT use solvents or thinners. If skin irritation persists, call a physician. Wash frost-bitten areas with plenty of water. Do not remove clothing. Wash off with polyethylene glycol and afterwards with plenty of water.

In case of eye contact : Protect unharmed eye. If easy to do, remove contact lens, if worn. In

		the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
If swallowed	:	If a person vomits when lying on his back, place him in the recovery position.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Foam, Carbon dioxide (CO2), Dry chemical, Water mist

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Do not use a solid water stream as it may scatter and spread fire. Hazardous decomposition products may be formed under fire conditions (see section 10). Exposure to decomposition products may be a hazard to health.

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
Further information	:	Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Refer to protective measures listed in sections 7 and 8. Use personal protective equipment. Remove all sources of ignition. Avoid contact with skin and eyes. Ensure adequate ventilation, especially in confined areas. Immediately evacuate personnel to safe areas. Avoid skin contact with leaking liquid (danger of frostbite).

6.2 Environmental precautions

Prevent product from entering drains. Attempt to stop the escaping of gas.

6.3 Methods and materials for containment and cleaning up

The product evaporates readily. Allow to evapourate. Clean contaminated surface thoroughly.

6.4 Reference to other sections

see chapter: 7, 8, 11, 12 and 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	For personal protection see section 8. Use only in well-ventilated areas. Avoid contact with skin and eyes. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Take precautionary measures against static discharges. Prevent the intrusion of water into the gas tank. Prevent backflow into the gas tank. Open the valves slowly to prevent pressure surges.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection. Keep away from heat and sources of ignition. Do not smoke. No sparking tools should be used. Electrical equipment should be protected to the appropriate standard.
Dust explosion class	:	Not applicable

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	To be observed: TRG 300 Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Secure the pressure vessels (gas cylinders) against falling over. Only use such equipment, which is suitable for this product and the proposed pressure and temperature.
Advice on common storage	:	Keep away from food, drink and animal feedingstuffs. Do not store together with oxidizing and self-igniting products. Incompatible with oxidizing agents. Incompatible with acids. To be observed: TRGS 510
German storage class	:	2A, Compressed, liquefied or pressurised gas

Storage temperature : < 50 °C

Other data : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components	CAS-No.	Control parameters	Basis	Update
butane	106-97-8	AGW: 2.400 mg/m3, 1.000 ppm DFG,	DE TRGS 900	2006-01-01
propane	74-98-6	AGW: 1.800 mg/m3, 1.000 ppm DFG,	DE TRGS 900	2006-01-01

Other information on limit values: see chapter 16

8.2 Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
Product contains low-boiling liquids. Respiratory protective equipment must be air supplied respirators.

Hand protection

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves

with the glove manufacturer.

Eye protection : Safety glasses

Skin and body protection : Flame retardant antistatic protective clothing.
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
General industrial hygiene practice.
Avoid contact with skin, eyes and clothing.
When using do not eat, drink or smoke.
Wash hands before breaks and at the end of workday.
Follow the skin protection plan.
Wash contaminated clothing before re-use.

Environmental exposure controls

General advice : Prevent product from entering drains.
Attempt to stop the escaping of gas.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	Liquefied gas
Colour	:	colourless
Odour	:	characteristic
Odour Threshold	:	No data available
Flash point	:	< -70 °C
Ignition temperature	:	> 400 °C
Thermal decomposition	:	No data available
Lower explosion limit	:	1,8 %(V)
Upper explosion limit	:	9,5 %(V)
Explosive properties	:	No data available
Flammability	:	No data available

Oxidizing properties	:	No data available
Auto-ignition temperature	:	No data available
Burning number	:	No data available
Molecular weight	:	No data available
pH	:	Not applicable
Freezing point	:	Not applicable
Boiling point/boiling range	:	< -40 °C
Vapour pressure	:	3,0 - 3,2 bar at 20 °C
Density	:	0,55 - 0,56 g/cm3
Bulk density	:	No data available
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Solubility in other solvents	:	completely soluble Medium: Hydrocarbons
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Impact sensitivity	:	No data available
Relative vapour density	:	No data available
Surface tension	:	No data available
Evaporation rate	:	No data available
Minimum ignition energy	:	No data available
Acid number	:	No data available
Refraction index	:	No data available
Miscibility in water	:	No data available
Solvent separation test	:	No data available

9.2 Other information

None known.

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Vapours may form explosive mixtures with air. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.

Stability : No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Strong oxidizing agents, Acids

10.6 Hazardous decomposition products

Hazardous decomposition products : Carbon monoxide, Carbon dioxide (CO2)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity:

No data available

Acute inhalation toxicity:

butane : LC50 Mouse, males: 1.237 mg/l, 520400 ppm
Test atmosphere: gas
Exposure time: 2 h

Acute dermal toxicity:

No data available

Acute toxicity (other routes of administration):

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

Sensitisation:

No data available

Germ cell mutagenicity

Genotoxicity in vitro:

butane	:	Test species: Human lymphocytes with and without metabolic activation Result: negative Method: OECD Test Guideline 473

Genotoxicity in vivo:

butane	:	Type: In vivo micronucleus test Test species: Rat Sex: male and female Application Route: inhalation (gas) Exposure duration: 13 w Dose: 0 - 10000 ppm Result: negative Method: OECD Test Guideline 474

Carcinogenicity

No data available

Reproductive toxicity

No data available

Teratogenicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

butane	:	NOAEL: Rat, male and female: 21,394 mg/l, 9000 ppm Application Route: Inhalation Exposure time: 28 d Dose: 0 - 9000 ppm

Aspiration hazard

Aspiration toxicity

No data available

Neurological effects

No data available

Toxicology Assessment

Toxicology, Metabolism, Distribution

No data available

Acute effects

No data available

Further information : Contact with liquid or refrigerated gas can cause cold burns and frostbite.
Specific hazards: Suffocation.
May cause frostbite.

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

Biodegradability

butane : Concentration: 61,2 mg/l
Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 26,4 d

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Advice on disposal and packaging	:	Disposal: In accordance with local and national regulations. Do not dispose of waste into sewer. This material and its container must be disposed of in a safe way. Do not dispose of together with household waste. Waste codes should be assigned by the user based on the application for which the product was used.

The following Waste Codes are only suggestions:

Waste Code (EWC)	:	Waste Key (unused product): 160505, gases in pressure containers other than those mentioned in 16 05 04 Waste key (used product): 160505, gases in pressure containers other than those mentioned in 16 05 04
Disposal of uncleaned packaging	:	Waste key (uncleaned packaging): 150110, packaging containing residues of or contaminated by dangerous substances Note: Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty pressure vessels should be returned to the supplier. Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR	:	2037
RID	:	2037
IMDG	:	2037
IATA	:	2037

14.2 Proper shipping name

ADR	:	RECEPTACLES, SMALL, CONTAINING GAS
RID	:	RECEPTACLES, SMALL, CONTAINING GAS
IMDG	:	RECEPTACLES, SMALL, CONTAINING GAS
IATA	:	RECEPTACLES, SMALL, CONTAINING GAS

14.3 Transport hazard class(es)

ADR	:	2
RID	:	2
IMDG	:	2.1
IATA	:	2.1

14.4 Packing group

ADR

Classification Code	:	5F
Labels	:	2.1
Limited quantity	:	1,00 L
Tunnel restriction code	:	(D)

RID

Classification Code	:	5F
Hazard Identification Number	:	23
Labels	:	2.1
Limited quantity	:	1,00 L

IMDG

Labels	:	2.1
EmS Number	:	F-D, S-U

IATA

Packing instruction (cargo aircraft)	:	203
Packing instruction (passenger aircraft)	:	203
Packing instruction (LQ)	:	Y203
Labels	:	2.1

14.5 Environmental hazards

ADR

Environmentally hazardous	:	no

RID

Environmentally hazardous	:	no

IMDG

Marine pollutant	:	no

IATA

Environmentally hazardous	:	no

14.6 Special precautions for user

see chapter: 6, 7 and 8

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances	:	Update: 2003	Quantity 1	Quantity 2
		Extremely flammable	10 t	50 t
		Update: 2003 Liquefied extremely flammable gases (including LPG) and natural gas	50 t	200 t
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.		Update:		
		FLAMMABLE GASES	10 t	50 t
		Update: Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams)	2.500 t	25.000 t

National legislation

Water contaminating class (Germany)	:	nwg (not water endangering) self classification
Other regulations	:	Observe national used protectional regulations.
Further information	:	Reserved for industrial and professional use.

15.2 Chemical Safety Assessment

No data available

SECTION 16: Other information

Full text of R-phrases referred to under sections 2 and 3

R12	Extremely flammable.

Full text of H-Statements referred to under sections 2 and 3.

H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.

Other information

DFG	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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