

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

FINOSCAN Scan spray 2

REF 55552

Further trade names

ISOBUTANE

ALCOHOL

Product group: organische Gase
CAS No: 75-28-5
Index No: 601-004-00-0
EC No: 200-857-2
UFI: XDUX-244Y-X00F-UUE1

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Auxiliary for dental technology
Plating agent

Uses advised against

Do not use for products which come into contact with the food stuffs. Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	FINO GmbH	
Street:	Mangelsfeld 18	
Place:	D-97708 Bad Bocklet	
Telephone:	+49-97 08-90 94 20	Telefax: +49-97 08-90 94 21
e-mail:	info@fino.com	Internet: www.fino.com
Contact person:	Joachim Mahlmeister	Telephone: +49-97 08-90 94 20
e-mail:	info@fino.com	
Responsible Department:	This number can only be reached during our office hours, Monday to Friday from 8 a.m. to 5 p.m.	

1.4. Emergency telephone number:

+49-89-1 92 40
POISON CENTER München
24 hour(s) 7 day(s)

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

Aerosol 1; H222-H229
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Hazard components for labelling**

butane ethanol; ethyl alcohol propane isobutane

Signal word: Danger

Pictograms:

Hazard statements

- | | |
|------|--|
| H222 | Extremely flammable aerosol. |
| H229 | Pressurised container: May burst if heated. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary statements

- | | |
|-----------|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P211 | Do not spray on an open flame or other ignition source. |
| P251 | Do not pierce or burn, even after use. |
| P273 | Avoid release to the environment. |
| P410+P412 | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

Special labelling of certain mixtures

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.
Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking. Keep out of the reach of children.

Additional advice on labelling

The product is classified and labelled according to EC directives or corresponding national laws.
Labelling according to Regulation (EC) No. 1272/2008 [CLP]

2.3. Other hazards

Results of PBT and vPvB assessment not applicable.
Heating causes rise in pressure with risk of bursting.

SECTION 3: Composition/information on ingredients
3.2. Mixtures
Chemical characterization

Mixture from the below listed substances with harmless additives.

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
75-28-5	isobutane			50-100 %
	200-857-2	601-004-00-0		
	Flam. Gas 1; H220			
64-17-5	ethanol; ethyl alcohol			2,5-10 %
	200-578-6	603-002-00-5		
	Flam. Liq. 2; H225			
1314-98-3	zinc sulphide			2,5-10 %
	200-578-6			
109-66-0	pentane			<5%
	203-692-4	601-006-00-1		
	Flam. Liq. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H336 H304 H411 EUH066			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
64-17-5	200-578-6	ethanol; ethyl alcohol	2,5-10 %
	inhalation: LC50 = 95,6 mg/l (vapours); oral: LD50 = 6200 mg/kg		
109-66-0	203-692-4	pentane	<5% %
	inhalation: LC50 = 364 mg/l (vapours)		

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

No special measures are necessary.

After inhalation

Provide fresh air.

Seek medical attention if problems persist.

After contact with skin

The product is not skin irritating.

After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water.

Seek medical attention if problems persist.

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

No known symptoms to date.

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

none

SECTION 5: Firefighting measures

5.1. Extinguishing media**Suitable extinguishing media**

Water spray jet, BC-powder

Unsuitable extinguishing media

Full water jet, Water

5.2. Special hazards arising from the substance or mixture

No information available.

5.3. Advice for firefighters

Do not inhale explosion and combustion gases. Co-ordinate fire-fighting measures to the fire surroundings. Do not allow run-off from fire-fighting to enter drains or water courses. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Wear personal protection equipment (refer to section 8).

Provide adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

For non-emergency personnel

Emergency procedures

Remove victim out of the danger area. Remove affected person from the danger area and lay down.

Remove persons to safety. The danger areas must be delimited and identified using relevant warning and safety signs.

For emergency responders

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Shafts and sewers must be protected from entry of the product. Retain contaminated washing water and dispose it. Collect in closed and suitable containers for disposal.

6.3. Methods and material for containment and cleaning up**For containment**

Cover drains.

Use only antistatically equipped (spark-free) tools. Personal protection equipment

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Contain leaks or spills within cabinets with removable trays.

For cleaning up

Collect in closed and suitable containers for disposal.

Ventilate affected area. Wash contaminated clothing before reuse.

6.4. Reference to other sections

No dangerous materials are released.

Safe handling: see section 7

Personal protection equipment: see section 8

Treat the recovered material as prescribed in the section on waste disposal. Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Protect from heat and direct sunlight.

Use only in well-ventilated areas.

Handle and open container with care.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharges.

Do not spray on naked flames or any incandescent material.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

Advice on general occupational hygiene

The usual precautionary measures are to be adhered to when handling chemicals.

When using do not eat, drink, smoke, sniff.

Wash hands before breaks and after work.

Take off contaminated clothing and wash it before reuse.

Keep away from food, drink and animal feedingstuffs.

Avoid contact with skin, eyes and clothes.

Do not breathe gas/fumes/vapour/spray.

Further information on handling

Handle and open container with care.

Use only in well-ventilated areas.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels

Keep in a cool, well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F. Protect from moisture. Store in cool, dry conditions in well sealed receptacles.

Hints on joint storage

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Further information on storage conditions

Please note the expiry date Keep only in original packaging.

Betriebssicherheitsverordnung (BetrSichV) Flammable aerosol.

7.3. Specific end use(s)

Auxiliary for dental technology Plating agent

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL
109-66-0	Pentane	600	1800		TWA (8 h)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
64-17-5	ethanol; ethyl alcohol			
Worker DNEL, acute	inhalation	local	1.900 mg/m ³	
Worker DNEL, long-term	dermal	systemic	343 mg/kg bw/day	
Worker DNEL, long-term	inhalation	systemic	950 mg/m ³	
Consumer DNEL, long-term	oral	systemic	87 mg/kg bw/day	
Consumer DNEL, long-term	dermal	systemic	206 mg/kg bw/day	
Consumer DNEL, long-term	inhalation	systemic	114 mg/m ³	

PNEC values

CAS No	Substance	
Environmental compartment		Value
64-17-5	ethanol; ethyl alcohol	
Freshwater		0,96 mg/l
Marine water		0,79 mg/l
Freshwater sediment		3,6 mg/kg
Micro-organisms in sewage treatment plants (STP)		580 mg/l
Soil		0,63 mg/kg

Additional advice on limit values

The lists valid during the making were used as basis.

8.2. Exposure controls



Appropriate engineering controls

If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tightly sealed safety glasses.

Hand protection

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The precise time of rupture can be found out from the manufacturer of the protective gloves and must be observed. Recommended glove articles: NBR (Nitrile rubber), Butyl caoutchouc (butyl rubber), NR (natural rubber, Natural latex)

Skin protection

lab coat

Respiratory protection

Respiratory protection necessary at: insufficient ventilation Half-face mask or quarter facepiece: maximum use concentration for substances with exposure limits: P1 filter: up to a max. of 4 times the exposure limit. P2 filter: up to a max. of 10 times the exposure limit. P3 filter: up to a max. of 30 times the expo.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	gaseous
Colour:	white
Odour:	characteristic
Odour threshold:	not determined

Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	- 11 °C
Softening point:	not applicable
Flash point:	-83 °C

Flammability

Solid/liquid:	Extremely flammable aerosol. Pressurized container: May burst if heated.
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Lower explosion limits:	1,8 vol. %
Upper explosion limits:	8,5 vol. %
Auto-ignition temperature:	460 °C

Self-ignition temperature

Solid:	Product is not selfigniting.
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Decomposition temperature:	not relevant
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Water solubility:	Immiscible
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Partition coefficient n-octanol/water:	not determined
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Vapour pressure: (at 20 °C)	3,0 hPa
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Density (at 20 °C):	0,64 g/cm ³
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Bulk density:	not determined
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Relative vapour density:	No information available.
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9.2. Other information
Information with regard to physical hazard classes

Sustaining combustion:	No data available
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Other safety characteristics

Solvent content:	Organic solvents: -,-% Maximum VOC content: >94%
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Solid content:	<10%
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Evaporation rate:	not determined
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Further Information
SECTION 10: Stability and reactivity
10.1. Reactivity

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Ignition hazard

10.4. Conditions to avoid

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

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation
Acute toxicity

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

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
64-17-5	ethanol; ethyl alcohol					
	oral	LD50 mg/kg	6200	Rat	IUCLID	
	inhalation (4 h) vapour	LC50	95,6 mg/l	Rat	RTECS	
109-66-0	pentane					
	inhalation (4 h) vapour	LC50	364 mg/l	Rat	GESTIS	

Irritation and corrosivity

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

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Specific effects in experiment on an animal

Toxicological analyses are not available.

Additional information on tests

Based on our experiences and information the product does not cause harmful health effects if handled according to specifications and used according to indications.

Practical experience

No special precautionary measures.

11.2. Information on other hazards
Other information

No special references.

SECTION 12: Ecological information
12.1. Toxicity

Don't let flow into the ground water, in waters or the sewage system undiluted resp. in larger quantities.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
64-17-5	ethanol; ethyl alcohol					
	Acute crustacea toxicity	EC50 14221 mg/l	9268 -	48 h	Daphnia magna	IUCLID
109-66-0	pentane					
	Acute crustacea toxicity	EC50 mg/l	9,74	48 h	Daphnia magna	IUCLID

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
75-28-5	isobutane	2,8
64-17-5	ethanol; ethyl alcohol	-0,31
109-66-0	pentane	3,39

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

No information available.

12.7. Other adverse effects

There are no data available on the mixture itself.

Further information

Water hazard class slightly hazardous to water

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Avoid release to the environment. Refer to special instructions/Safety data sheets.

List of Wastes Code - residues/unused products

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

List of Wastes Code - used product

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

Contaminated packaging

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:

UN 1950

14.2. UN proper shipping name:

AEROSOLS isobutane

14.3. Transport hazard class(es):

2

14.4. Packing group:

-

Hazard label:

2.1



Classification code:

5F

Special Provisions: 190 327 344 625
 Limited quantity: 1 L
 Excepted quantity: E0
 Transport category: 2
 Tunnel restriction code: D

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS isobutane
14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2.1



Classification code: 5F
 Special Provisions: 190 327 344 625
 Limited quantity: 1 L
 Excepted quantity: E0

Marine transport (IMDG)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1



Special Provisions: 63, 190, 277, 327, 344, 381, 959
 Limited quantity: 1000 mL
 Excepted quantity: E0
 EmS: F-D, S-U

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1



Special Provisions: A145 A167 A802
 Limited quantity Passenger: 30 kg G
 Passenger LQ: Y203
 Excepted quantity: E0
 IATA-packing instructions - Passenger: 203
 IATA-max. quantity - Passenger: 75 kg
 IATA-packing instructions - Cargo: 203
 IATA-max. quantity - Cargo: 150 kg

Other applicable information (air transport)
 AEROSOLS

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Aerosols

14.7. Maritime transport in bulk according to IMO instruments

No special precautionary measures.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 28, Entry 40

2010/75/EU (VOC): 81 % (518,4 g/l)

2004/42/EC (VOC): 81 % (518,4 g/l)

Information according to 2012/18/EU (SEVESO III): P3a FLAMMABLE AEROSOLS

Additional information: P3a

Additional information

The product is classified and labelled according to EC directives or corresponding national laws.

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

Additional information

Betriebssicherheitsverordnung (BetrSichV) Flammable aerosol.

No further data.

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 9.

* Data changed compared with the previous version.

Abbreviations and acronyms

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

"IATA-DGR: Dangerous Goods Regulations by the ""International Air Transport Association"" (IATA)"

ICAO: International Civil Aviation Organization

"ICAO-TI: Technical Instructions by the ""International Civil Aviation Organization"" (ICAO)"

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Gas. 1: Flammable gases, Hazard Category 1

Aerosol 1: Aerosole, Hazard Category 1

Press. Gas Comp: Gases under pressure - compacted gas

Flam. Lig. 2: Flammable liquids, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

Relevant H and EUH statements (number and full text)

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

Identified uses

No	Short title	LCS	SU	PC	PROC	ERC	AC	TF	Specification
1	Flammable gases	C	9	21	15	2, 6a, 6b	0	94	11

LCS: Life cycle stages

PC: Product categories

ERC: Environmental release categories

TF: Technical functions

SU: Sectors of use

PROC: Process categories

AC: Article categories

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)