

Safety Data Sheet

according to Regulation (EC) No 1907/2006

s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

Revision date: 31.05.2022

Product code: 27123

Page 1 of 12

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

1.1. Product identifier

s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	Fa. Bernd Kraft GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
e-mail:	info@berndkraft.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
e-mail:	produktsicherheit@berndkraft.de	
Internet:	www.berndkraft.de	
Responsible Department:	Abteilung Produktsicherheit	
1.4. Emergency telephone	For Hazardous Materials [or Danger	ous Goods] Incidents Spill, Leak, Fire,
number:	Exposure, or Accident Call CHEMTR	REC Day or Night Within USA and Canada:
	1-800-424-9300 Outside USA and C	anada: +1 703-741-5970 (collect calls

Further Information

This product is a mixture. REACH Registration Number see section 3.

accepted)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 1; H224 Asp. Tox. 1; H304 STOT SE 3; H336 Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling pentane isopentane Signal word: Danger

Pictograms:



Hazard statements

H224

Extremely flammable liquid and vapour.



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according to Regulation (EC) No 1907/2006

s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

Revision date: 31.05.2022	Product code: 27123	Page 2 of 12
H336	May cause drowsiness or dizziness.	
H304	May be fatal if swallowed and enters airways.	
H411	Toxic to aquatic life with long lasting effects.	
Precautionary statement	ts	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	
P240	Ground and bond container and receiving equipment.	
P273	Avoid release to the environment.	
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.	
P403+P235	Store in a well-ventilated place. Keep cool.	

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name						
	EC No	No Index No REACH No					
	Classification (Regulation (EC) No 1272/2008)						
109-66-0	pentane			80 - < 85 %			
	203-692-4	4 601-006-00-1 01-2119459286-30					
	Flam. Liq. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H336 H304 H411 EUH066						
78-78-4	isopentane			15 - < 20 %			
	201-142-8	01-2119475602-38					
	Flam. Liq. 1, STOT SE 3, Asp. To	x. 1, Aquatic Chronic 2; H224 H336 H	1304 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					
109-66-0	203-692-4	4 pentane				
	inhalation: LC50 = > 25,3 mg/l (vapours); oral: LD50 = > 5000 mg/kg					
78-78-4	201-142-8	isopentane	15 - < 20 %			
	inhalation: LC5	i0 = > 25,3 mg/l (vapours); oral: LD50 = > 2000 mg/kg				

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

NU Uala avaliable

After inhalation

Provide fresh air.

If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

After contact with skin

Wash immediately with: Water Take off immediately all contaminated clothing and wash it before reuse.



s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

Revision date: 31.05.2022

Product code: 27123

Page 3 of 12

Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Observe risk of aspiration if vomiting occurs. Call a physician immediately.

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

Water spray jet, Carbon dioxide (CO2), Foam, Extinguishing powder.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible liquids Hazardous combustion products In case of fire may be liberated: Carbon dioxide (CO2) Carbon monoxide Vapours are heavier than air, spread along floors and form explosive mixtures with air. Heating causes rise in pressure with risk of bursting.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes. Avoid contact with skin, eyes and clothes.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Keep away from sources of ignition - No smoking. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety. Emergency procedures

Energency procedures

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8



s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

Revision date: 31.05.2022

Product code: 27123

Page 4 of 12

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers). Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation. Do not breathe dust/fume/gas/mist/vapours/spray. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Read label before use. Handle and open container with care. When using do not eat, drink, smoke, sniff. Keep container tightly closed. Use personal protection equipment. Use extractor hood (laboratory). Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

Advice on protection against fire and explosion

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

Further information on handling

Take off immediately all contaminated clothing and wash it before reuse. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used. Store in a place accessible by authorized persons only.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in a cool, well-ventilated place.

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

Further information on storage conditions

Keep cool. Protect from sunlight.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection



s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

Revision date: 31.05.2022

Product code: 27123

Page 5 of 12

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
78-78-4	iso-Pentane	1000	-		TWA (8 h)	
109-66-0	n-Pentane	1000	-		TWA (8 h)	

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
109-66-0	pentane			
Worker DNEL,	long-term	inhalation	systemic	3000 mg/m³
Worker DNEL,	long-term	dermal	systemic	432 mg/kg bw/day
Consumer DN	EL, long-term	inhalation	systemic	643 mg/m³
Consumer DN	EL, long-term	dermal	systemic	214 mg/kg bw/day
Consumer DN	EL, long-term	oral	systemic	214 mg/kg bw/day
78-78-4	isopentane			
Worker DNEL,	long-term	inhalation	systemic	3000 mg/m ³
Worker DNEL,	long-term	dermal	systemic	432 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	643 mg/m³
Consumer DNEL, long-term		dermal	systemic	214 mg/kg bw/day
Consumer DN	EL, long-term	oral	systemic	214 mg/kg bw/day

PNEC values

CAS No	Substance							
Environmental compartment Value								
109-66-0	pentane	entane						
Freshwater 0,23 mg/l								
Freshwater (intermittent releases) 0,88 mg/l								
Marine water 0,23 mg/l								
Freshwater sediment 1,2 mg/kg								
Marine sediment 1,2 mg/kg								
Micro-organisms in sewage treatment plants (STP) 3,6 mg/								
Soil	0,55 mg/kg							

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Face protection umbrella

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the



Safety Data Sheet

according to Regulation (EC) No 1907/2006

s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

Revision date: 31.05.2022

Product code: 27123

Page 6 of 12

specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact Trade name/designation KCL 730 Camatril® Velours Suitable material: NBR (Nitrile rubber) 0,4 mm Wearing time with permanent contact: > 480 min

By short-term hand contact Trade name/designation KCL 730 Camatril® Velours Suitable material: NBR (Nitrile rubber) 0,4 mm Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Take off immediately all contaminated clothing and wash it before reuse. Wear fire resistant or flame retardant clothing. Wash hands and face before breaks and after work and take a shower if necessary. Draw up and observe skin protection programme.

Respiratory protection

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

Environmental exposure controls

Do not allow to enter into surface water or drains. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Danger of explosion

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Colour:	Liquid colourless	
Odour:	characteristic	
Changes in the physical state		
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		27 °C
Sublimation point:		No data available
Softening point:		No data available
Pour point:		No data available
:		No data available
Flash point:		-56 °C
Flammability		
Solid/liquid:		not applicable
Gas:		not applicable



Page 7 of 12

according to Regulation (EC) No 1907/2006

n-Pentan)

s-Pentan reinst (20 vo	ol.% iso-Pentan und 80 vol.% n-Pe
Revision date: 31.05.2022	Product code: 27123
Explosive properties Vapours are heavier than air, spread along floors	and form explosive mixtures with air.
Lower explosion limits:	No data available
Upper explosion limits:	No data available
Auto-ignition temperature:	No data available
Self-ignition temperature Solid: Gas:	not applicable not applicable
Decomposition temperature:	not determined
pH-Value:	not determined
Viscosity / dynamic:	No data available
Viscosity / kinematic:	No data available
Flow time:	No data available
Water solubility:	No
Solubility in other solvents not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	0,62691 g/cm ³
Bulk density:	No data available
Relative vapour density:	not determined
9.2. Other information	
Information with regard to physical hazard classes Oxidizing properties Not oxidising.	3
Other safety characteristics	
Solvent separation test:	No data available
Solvent content:	100%
Solid content:	0
Evaporation rate:	not determined
Further Information	
No data available	

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable liquid and vapour.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Oxidising agent

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.



s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

Revision date: 31.05.2022

Product code: 27123

Page 8 of 12

10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicocinetics, metabolism and distribution

No data available

Acute toxicity

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

CAS No	Chemical name								
	Exposure route	Dose		Species	Source	Method			
109-66-0	pentane								
	oral	LD50 mg/kg	> 5000	Rat	Study report (1982)	OECD Guideline 423			
	inhalation (4 h) vapour	LC50 mg/l	> 25,3	Rat	Secondary source (1993)	OECD Guideline 403			
78-78-4	isopentane								
	oral	LD50 mg/kg	> 2000	Rat	Study report (1996)	OECD Guideline 401			
	inhalation (4 h) vapour	LC50 mg/l	> 25,3	Rat	Secondary source (1993)	OECD Guideline 403			

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

May cause drowsiness or dizziness. (pentane)

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.

Aspiration hazard

May be fatal if swallowed and enters airways.

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Other information No data available

Further information

No data available



s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

Revision date: 31.05.2022

Product code: 27123

Page 9 of 12

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name								
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method		
109-66-0	pentane								
	Acute fish toxicity	LC50 mg/l	4,26	96 h	Oncorhynchus mykiss	Study report (1997)	OECD Guideline 203		
	Acute algae toxicity	ErC50 mg/l	20,33	72 h	Pseudokirchneriella subcapitata	CONCAWE, Brussels, Belgium (2009)	The aquatic toxicity was estimated by a		
	Acute crustacea toxicity	EC50 mg/l	48,11	48 h	Daphnia magna	CONCAWE, Brussels, Belgium (2009)	The aquatic toxicity was estimated by a		
	Fish toxicity	NOEC mg/l	6,165	28 d	Oncorhynchus mykiss	CONCAWE, Brussels, Belgium (2009)	The aquatic toxicity was estimated by a		
	Crustacea toxicity	NOEC mg/l	10,76	21 d	Daphnia magna	CONCAWE, Brussels, Belgium (2009)	The aquatic toxicity was estimated by a		
78-78-4	isopentane								
	Acute fish toxicity	LC50 mg/l	4,26	96 h	Oncorhynchus mykiss	Study report	OECD Guideline 203		
	Acute algae toxicity	ErC50 mg/l	25,12	72 h	Pseudokirchneriella subcapitata	CONCAWE, Brussels, Belgium (2009)	The aquatic toxicity was estimated by a		
	Acute crustacea toxicity	EC50 mg/l	59,44	48 h	Daphnia magna	CONCAWE, Brussels, Belgium (2009)	The aquatic toxicity was estimated by a		
	Fish toxicity	NOEC mg/l	7,618	28 d	Oncorhynchus mykiss	CONCAWE, Brussels, Belgium (2009)	The aquatic toxicity was estimated by a		
	Crustacea toxicity	NOEC mg/l	13,29	21 d	Daphnia magna	CONCAWE, Brussels, Belgium (2009)	The aquatic toxicity was estimated by a		

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
109-66-0	pentane	3,45
78-78-4	isopentane	4

BCF

CAS No	Chemical name	BCF	Species	Source
109-66-0	pentane	171	Pimephales promelas	QSAR in Environmenta
78-78-4	isopentane	171	Pimephales promelas	QSAR in Environmenta

12.4. Mobility in soil

The product has not been tested.



s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

Revision date: 31.05.2022

Product code: 27123

Page 10 of 12

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII. The product has not been tested.

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.

12.7. Other adverse effects

Do not allow to enter into surface water or drains. Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste. Send to a physico-chemical treatment facility under observation of official regulations. Do not empty into drains.

Contaminated packaging

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

UN 1265
PENTANES
3
I
3
F1
0
E3
1
33
D/E
UN 1265
Pentanes
3
1
3
F1
0
E3
UN 1265
PENTANES
3
I
3
-
0
E3



s-Pentan reinst	(20 vol.% iso-Pentan und 80 vol.% n-Pentan)
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Revision date: 31.05.2022	Product co	de: 27123	Page 11 of 12
EmS:	F-E, S-D		5
	T-L, S-D		
Air transport (ICAO-TI/IATA-DGR) 14.1. UN number or ID number:	UN 1265		
14.2. UN proper shipping name:	PENTANES liquid		
14.3. Transport hazard class(es):	3		
14.4. Packing group:			
Hazard label:	3		
Limited quantity Passenger:	Forbidden		
Passenger LQ:	Forbidden		
Excepted quantity:	E3		
IATA-packing instructions - Passenger:		351	
IATA-max. quantity - Passenger:		1 L	
IATA-packing instructions - Cargo:		361	
IATA-max. quantity - Cargo:		30 L	
14.5. Environmental hazards			
ENVIRONMENTALLY HAZARDOUS:	Yes		
Danger releasing substance:	pentanes		
Warning: Combustible liquid. <u>14.7. Maritime transport in bulk according to</u> not applicable	IMO instruments		
SECTION 15: Regulatory information			
15.1. Safety, health and environmental regul	ations/legislation spe	cific for the substance or mixture	
EU regulatory information			
Restrictions on use (REACH, annex XVII):			
Entry 3, Entry 40			
Information according to 2012/18/EU (SEVESO III):	P5a FLAMMABLE LI	QUIDS	
Additional information:	E2		
National regulatory information			
Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.		
Water hazard class (D):	2 - obviously hazardo	bus to water	
15.2. Chemical safety assessment			

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): 3,4,5,6,7,8,9,10,11,12,13,14.

Abbreviations and acronyms

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



Safety Data Sheet

according to Regulation (EC) No 1907/2006

s-Pentan reinst (20 vol.% iso-Pentan und 80 vol.% n-Pentan)

Revision date: 31.05.2022

Product code: 27123

Page 12 of 12

CAS: Chemical Abstracts Service LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

Extremely flammable liquid and vapour.
Highly flammable liquid and vapour.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Toxic to aquatic life with long lasting effects.
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 data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)