

**Aeron Isopentan**

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

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

**1.1 Product identifier**

Identification of the substance	<b>Aeron Isopentan</b>
Registration number (REACH)	01-2119475602-38-xxxx
EC number	201-142-8
Index number in CLP Annex VI	601-085-00-2
CAS number	78-78-4

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

Relevant identified uses	Blowing agents
Uses advised against	Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

**1.3 Details of the supplier of the safety data sheet**

SCHARR CPC GmbH  
Hentrichstraße 65  
47809 Krefeld  
Germany

Telephone: +49 2151 5219-0  
Telefax: +49 2151 5219-22  
e-mail: info@scharr-cpc.de  
Website: www.scharr-cpc.de

e-mail (competent person) [produktsicherheit@scharr-cpc.de](mailto:produktsicherheit@scharr-cpc.de) (Technik)

**1.4 Emergency telephone number**

Emergency information service	+49 2151 5219-0 This number is only available during the following office hours: Mon - Thu 08:00 - 17:00, Fri 08:00 - 16:00
-------------------------------	--

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 (CLP)

Hazard class	Category	Hazard class and category	Hazard statement
flammable liquid	1	Flam. Liq. 1	H224
specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336
aspiration hazard	1	Asp. Tox. 1	H304
hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of watercourses.

**Aeron Isopentan**

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word danger

- pictograms

GHS02, GHS07,  
GHS08, GHS09



- hazard statements

H224 Extremely flammable liquid and vapour.  
H304 May be fatal if swallowed and enters airways.  
H336 May cause drowsiness or dizziness.  
H411 Toxic 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.  
P241 Use explosion-proof electrical/ventilating/lighting equipment.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of contents/container to industrial combustion plant.

- supplemental hazard information

EUH066 Repeated exposure may cause skin dryness or cracking.

**2.3 Other hazards**

of no significance

**SECTION 3: Composition/information on ingredients**

**3.1 Substances**




Name of substance isopentane  
Identifiers  
REACH Reg. No 01-2119475602-38-xxxx  
EC No 201-142-8  
CAS No 78-78-4  
Index No 601-085-00-2  
Purity ≥95 %

Impurities and additives, classification acc. to GHS				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
pentane	CAS No 109-66-0 EC No 203-692-4 REACH Reg. No 01-	≤ 4	Flam. Liq. 2 / H225 STOT SE 3 / H336 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411	

**Aeron Isopentan**

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

Impurities and additives, classification acc. to GHS				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
	2119459286-30-xxxx			
2,2-dimethylpropane	CAS No 463-82-1  EC No 207-343-7	≤ 1	Flam. Gas 1 / H220 Press. Gas C / H280 Aquatic Chronic 2 / H411	
butane	CAS No 106-97-8  EC No 203-448-7  REACH Reg. No 01- 2119474691- 32-xxxx	≤ 1	Flam. Gas 1 / H220 Press. Gas C / H280	
isobutane	CAS No 75-28-5  EC No 200-857-2  REACH Reg. No 01- 2119485395- 27-xxxx	≤ 1	Flam. Gas 1 / H220 Press. Gas C / H280	

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. 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. Self-protection of the first aider.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

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. Call a doctor.

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

Narcotic effects. Breathing difficulties. Headache. Vertigo.

## Aeron Isopentan

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

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

Subsequent observance for pneumonia and pulmonary oedema. Supervise the blood circulation.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media

Water jet

### 5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Danger of bursting container.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Phosphorus oxides (P<sub>x</sub>O<sub>y</sub>), Sulphur dioxide (SO<sub>2</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate 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. Provision of sufficient ventilation. Avoidance of ignition sources.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Provision of sufficient ventilation.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

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.

**Aeron Isopentan**

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

**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. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

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**

Managing of associated risks

- explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

- ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

- specific designs for storage rooms or vessels

- Lagerklasse (storage class according to TRGS 510, 3 (flammable liquids) Germany)

- packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

Occupational exposure limit values (Workplace Exposure Limits)								
Country	Name of substance	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Source
EU	iso-pentane	78-78-4	IOELV	1,000	3,000			2006/15/EC
GB	iso-pentane	78-78-4	WEL	600	1,800			EH40/2005

Notation

STEL 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)

## Aeron Isopentan

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

### Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	432 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
DNEL	3,000 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
pentane	109-66-0	DNEL	3,000 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
pentane	109-66-0	DNEL	432 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
pentane	109-66-0	PNEC	880 µg/l	aquatic organisms	water	intermittent release
pentane	109-66-0	PNEC	230 µg/l	aquatic organisms	freshwater	short-term (single instance)
pentane	109-66-0	PNEC	230 µg/l	aquatic organisms	marine water	short-term (single instance)
pentane	109-66-0	PNEC	3,600 µg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
pentane	109-66-0	PNEC	1.2 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
pentane	109-66-0	PNEC	1.2 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
pentane	109-66-0	PNEC	0.55 mg/kg	terrestrial organisms	soil	short-term (single instance)

### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

**Aeron Isopentan**

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

**Skin protection**

- hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. 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.

- type of material

NBR: acrylonitrile-butadiene rubber

- material thickness

0,4 mm

- breakthrough times of the glove material

>240 minutes (permeation: level 5)

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

**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	liquid
Colour	various
Odour	characteristic

**Other safety parameters**

pH (value)	not determined
Melting point/freezing point	-159.8 °C at 1,013 mbar
Initial boiling point and boiling range	27.8 °C at 1,013 mbar
Flash point	-51 °C at 1,013 hPa
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)

**Explosive limits**

## Aeron Isopentan

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

- lower explosion limit (LEL)	1.3 vol%
- upper explosion limit (UEL)	7.6 vol%
Vapour pressure	760 hPa at 20 °C
Density	0.62 g/cm <sup>3</sup> at 20 °C
Vapour density	this information is not available

### Solubility(ies)

- water solubility	0.0485 g/l at 25 °C
--------------------	---------------------

### Partition coefficient

- n-octanol/water (log KOW)	4 (pH value: 6.6, 25 °C)
-----------------------------	--------------------------

Auto-ignition temperature	420 °C
Viscosity	not determined
Explosive properties	none
Oxidising properties	none

## 9.2 Other information

Temperature class (EU, acc. to ATEX)	T2 (maximum permissible surface temperature on the equipment: 300°C)
--------------------------------------	--

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.

### 10.4 Conditions to avoid

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

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

### 10.5 Incompatible materials

Oxidisers



## Aeron Isopentan

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

### 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

#### Classification according to GHS (1272/2008/EC, CLP)

##### Acute toxicity

Shall not be classified as acutely toxic.

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

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

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

##### Specific target organ toxicity - repeated exposure

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

##### Aspiration hazard

May be fatal if swallowed and enters airways.

##### Other information

Repeated exposure may cause skin dryness or cracking.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)			
Endpoint	Value	Species	Exposure time
LL50	34.05 mg/l	fish	96 h
EL50	59.44 mg/l	aquatic invertebrates	48 h
EC50	5.2 mg/l	algae	96 h
LC50	12.8 mg/l	fish	96 h

**Aeron Isopentan**

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
pentane	109-66-0	EC50	2.8 mg/l	aquatic invertebrates	48 h
pentane	109-66-0	LL50	27.55 mg/l	fish	96 h
pentane	109-66-0	EL50	48.11 mg/l	aquatic invertebrates	48 h
butane	106-97-8	LC50	27.98 mg/l	fish	96 h
butane	106-97-8	EC50	7.71 mg/l	algae	96 h
isobutane	75-28-5	LC50	27.98 mg/l	fish	96 h
isobutane	75-28-5	EC50	7.71 mg/l	algae	96 h

**Biodegradation**

Data are not available.

**12.2 Persistence and degradability**

Process of degradability		
Process	Degradation rate	Time
oxygen depletion	71.43 %	28 d

Degradability of components of the mixture						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
pentane	109-66-0	oxygen depletion	3 %	7 d		ECHA

**12.3 Bioaccumulative potential**

Data are not available.

n-octanol/water (log KOW)	4 (pH value: 6.6, 25 °C)
---------------------------	--------------------------

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
pentane	109-66-0	171	3.45 (pH value: 7, 25 °C)	
butane	106-97-8			

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

Data are not available.

**12.6 Other adverse effects**

Data are not available.

**Aeron Isopentan**

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Waste treatment-relevant information

Solvent reclamation/regeneration.

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/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

**Relevant provisions relating to waste**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Machining emulsions and solutions free of halogens 12 01 09\*

**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.

**SECTION 14: Transport information**

<b>14.1 UN number</b>	1265
<b>14.2 UN proper shipping name</b>	PENTANES
<b>14.3 Transport hazard class(es)</b>	
Class	3 (flammable liquids) (environmentally hazardous)
<b>14.4 Packing group</b>	I (substance presenting high danger)
<b>14.5 Environmental hazards</b>	hazardous to the aquatic environment
<b>14.6 Special precautions for user</b>	
	Provisions for dangerous goods (ADR) should be complied within the premises.
<b>14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	
	The cargo is not intended to be carried in bulk.

**Information for each of the UN Model Regulations**



**Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

UN number	1265
Proper shipping name	PENTANES
Class	3
Classification code	F1
Packing group	I
Danger label(s)	3, fish and tree
 	
Environmental hazards	YES (hazardous to the aquatic environment)
Excepted quantities (EQ)	E3

**Aeron Isopentan**

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

Limited quantities (LQ)	0
Transport category (TC)	1
Tunnel restriction code (TRC)	D/E
Hazard identification No	33
Emergency Action Code	3YE
<b>International Maritime Dangerous Goods Code (IMDG)</b>	
UN number	1265
Proper shipping name	PENTANES
Class	3
Marine pollutant	YES (hazardous to the aquatic environment)
Packing group	I
Danger label(s)	3, fish and tree
	
Special provisions (SP)	-
Excepted quantities (EQ)	E3
Limited quantities (LQ)	0
EmS	F-E, S-D
Stowage category	E
<b>International Civil Aviation Organization (ICAO-IATA/DGR)</b>	
UN number	1265
Proper shipping name	Pentanes
Class	3
Environmental hazards	YES (hazardous to the aquatic environment)
Packing group	I
Danger label(s)	3
	
Excepted quantities (EQ)	E3

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**Relevant provisions of the European Union (EU)**

**VOC Deco-Paint Directive 2004/42/EC**

VOC content	100 %
-------------	-------

**Directive on industrial emissions (VOCs, 2010/75/EU)**

VOC content	100 %
-------------	-------

**Aeron Isopentan**

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

**National inventories**

Substance is listed in the following national inventories  
EINECS/ELINCS/NLP (Europe)  
DSL/NDSL (Canada)  
ENCS, class 1 and 2 (MITI-inventory, Japan)  
AICS (Australia)  
KECL (Republic of Korea)  
PICCS (Philippines)  
IECSC (China)  
NZIoC (New Zealand)  
REACH (Europe)  
ASIA-PAC (Asia-Pacific Region)  
SWISS (Switzerland)  
Toxic Substance Control Act (TSCA)

**15.2 Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out for this substance.

**SECTION 16: Other information**

**Indication of changes (revised safety data sheet)**

Section	Former entry (text/value)	Actual entry (text/value)
2.1	Additional information: According to the results of its assessment, this substance is not a PBT or a vPvB.	
2.2		- precautionary statements: change in the listing (table)
2.3	Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	
3.1		Impurities and additives, classification acc. to GHS: change in the listing (table)
8.1		Relevant DNELs of components of the mixture: change in the listing (table)
8.1		Relevant PNECs of components of the mixture: change in the listing (table)
8.2		Type of material: NBR: acrylonitrile-butadiene rubber
8.2		Material thickness: 0,4 mm
8.2		Breakthrough times of the glove material: >240 minutes (permeation: level 5)
12.1	Toxicity: Toxic to aquatic life with long lasting effects. Listed substances (VwVwS).	Toxicity: Toxic to aquatic life with long lasting effects.
12.1		Aquatic toxicity (acute): change in the listing (table)
12.1		Aquatic toxicity (acute) of components of the mixture: change in the listing (table)
12.2	Persistence and degradability: Data are not available.	Persistence and degradability
14.3	Class: 3 (flammable liquids)	Class: 3 (flammable liquids) (environmentally hazardous)

## Aeron Isopentan

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2006/15/EC	Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
Asp. Tox.	Aspiration hazard
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
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
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Flam. Gas	Flammable gas
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality

## Aeron Isopentan

Version number: 2.0  
Replaces version of: 2016-08-25 (1)

Revision: 2019-11-14

Abbr.	Descriptions of used abbreviations
log KOW	n-Octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Press. Gas	Gas under pressure
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
TRGS	Technische Regeln für Gefahrstoffe (technical rules for hazardous substances, Germany)
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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

Code	Text
H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H280	Contains gas under pressure; may explode 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.

### Disclaimer

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