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

1.1 Product identifier

AP Density Standard Dodecane

IUPAC	Dodecane
EINECS/ELINCS	203-967-9
CAS	112-40-3

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

1.2.1 Relevant uses

Density standard
Analytics

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

Anton Paar GmbH
Anton-Paar-Str. 20
8054 Graz / AUSTRIA
Phone +43 (0) 316 257-0
Fax +43 (0) 316 257-257
Homepage www.anton-paar.com
E-mail info@anton-paar.com

Address enquiries to

Technical information	info@anton-paar.com
Safety Data Sheet	sdb@chemiebuero.de (No dispatch of safety data sheets)
	Safety data sheets are available from the supplier.

1.4 Emergency telephone number

Advisory body	Call NHS 111 or a doctor
Company	+43 (0) 316 257-0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (GB) CLP]

Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.

2.2 Label elements

The product is required to be labelled in accordance with regulation CLP.

Hazard pictograms

Signal word	DANGER
Contains:	Dodecane EINECS: 203-967-9
Hazard statements	H304 May be fatal if swallowed and enters airways.
Precautionary statements	P301+P310 IF SWALLOWED: Immediately call a POISON CENTER / doctor. P331 Do NOT induce vomiting. P308+P313 IF exposed or concerned: Get medical advice / attention.
Special labelling	EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

Human health dangers The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Environmental 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.
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other hazards Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

3.1 Substances

The product is a substance.

Range [%]	Substance
100	Dodecane
	CAS: 112-40-3, EINECS/ELINCS: 203-967-9
	GHS/CLP: Asp. Tox. 1: H304 - EUH066

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
For full text of H-statements: see SECTION 16.

3.2 Mixtures

not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Take off contaminated clothing and wash before reuse.

Inhalation Remove the victim into fresh air and keep him calm.
In the event of symptoms seek medical treatment.

Skin contact When in contact with the skin, clean with soap and water.
If skin irritation or rash occurs: Get medical advice/attention.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion Rinse out mouth and give plenty of water to drink.
Do not induce vomiting.
Consult a doctor immediately.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
If swallowed or in the event of vomiting, risk of product entering the lungs.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Foam, dry powder, water spray jet, carbon dioxide

Extinguishing media that must not be used Full water jet

5.2 Special hazards arising from the substance or mixture

Carbon monoxide (CO)
Carbon dioxide (CO2)

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Cool containers at risk with water spray jet.
Collect contaminated firefighting water separately, must not be discharged into the drains.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Use personal protective clothing.
High risk of slipping due to leakage/spillage of product.
Remove persons to safety.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Provide good room ventilation even at ground level (vapours are heavier than air).
Avoid contact with eyes and skin. Use personal protective equipment.
Place the container in an upright position and protect it against falling over.

Keep away from open flames, hot surfaces and sources of ignition.
Take precautionary measures against static discharges.

Take off contaminated clothing and wash before reuse.
Do not eat, drink or smoke when using this product.
Wash face and/or hands before break and end of work.
Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original tightly closed container.

Do not store together with oxidizing agents.

Keep container tightly closed.
Keep container in a well-ventilated place.
Store in a dry place.
Recommended storage temperature: room temperature.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

not relevant

Ingredients with occupational exposure limits to be monitored (EU)

not relevant

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	If there is a risk of splashing: Tightly fitting goggles (EN 166:2001).
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. 0.4 mm; Nitrile rubber, >480 min (EN 374-1/-2/-3).
Skin protection	Protective clothing (EN 340)
Other	Avoid contact with eyes and skin. Do not inhale vapours. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Respiratory protection	In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, filter A. (DIN EN 14387)
Thermal hazards	none
Delimitation and monitoring of the environmental exposition	Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Form	liquid
Color	colourless
Odor	characteristic
Odour threshold	not applicable
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	215 - 217
Flash point [°C]	70
Flammability	not applicable
Lower explosion limit	0.6 Vol. %
Upper explosion limit	No information available.
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	0.02 (25°C)
Density [g/cm³]	0.75
Relative density	not determined
Bulk density [kg/m³]	not applicable
Solubility in water	insoluble
Solubility other solvents	No information available.
Partition coefficient [n-octanol/water]	6.98 (25°C)
Kinematic viscosity	1.98 mm²/s (20°C)(ECHA)
Relative vapour density	No information available.
Evaporation speed	No information available.
Melting point [°C]	-9.6
Auto-ignition temperature [°C]	No information available.
Decomposition temperature [°C]	No information available.
Particle characteristics	not applicable

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

Vapours can form an explosive mixture with air.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Forms explosive mixtures with air on intense heating.

10.4 Conditions to avoid

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

10.5 Incompatible materials

Oxidizing agent

10.6 Hazardous decomposition products

No dangerous reactions known if used as directed.
In the event of fire: See SECTION 5.

SECTION 11: Toxicological information

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

Acute oral toxicity

Substance
Dodecane, CAS: 112-40-3
LD50, oral, Rat, > 5000 mg/kg (OECD 401)

Acute dermal toxicity

Substance
Dodecane, CAS: 112-40-3
LD50, dermal, Rabbit, > 3160 mg/kg (OECD 402)
LD50, dermal, Rat, > 2000 mg/kg (OECD 402)

Acute inhalational toxicity

Substance
Dodecane, CAS: 112-40-3
LC50, inhalative, Rat, > 4.9 mg/l/4h (OECD 403)

Serious eye damage/irritation Based on the available information, the classification criteria are not fulfilled.

Substance
Dodecane, CAS: 112-40-3
Eye, Rabbit, OECD 405, non-irritating

Skin corrosion/irritation Based on the available information, the classification criteria are not fulfilled.

Substance
Dodecane, CAS: 112-40-3
dermal, Rabbit, OECD 404, irritant

Respiratory or skin sensitisation Based on the available information, the classification criteria are not fulfilled.

Substance
Dodecane, CAS: 112-40-3
dermal, Guinea pig, OECD 406, non-sensitizing

Specific target organ toxicity — single exposure Based on the available information, the classification criteria are not fulfilled.

Specific target organ toxicity — repeated exposure Based on the available information, the classification criteria are not fulfilled.

Substance
Dodecane, CAS: 112-40-3
NOAEL, oral, Rat, >= 1000 mg/kg bw/day, OECD 422, adverse effect observed
NOAEL, oral, Rat, >= 5000 mg/kg bw/day, OECD 408, adverse effect observed

Mutagenicity Based on the available information, the classification criteria are not fulfilled.

Substance
Dodecane, CAS: 112-40-3
in vitro, Ames-test, negativ
in vitro, OECD 473, negativ

Reproduction toxicity Based on the available information, the classification criteria are not fulfilled.

- Fertility

Substance
Dodecane, CAS: 112-40-3
NOAEC, oral, Rat, 1000 mg/kg bw/day, OECD 422, no adverse effect observed

- Development

Substance
Dodecane, CAS: 112-40-3
NOAEC, inhalative, Rat, 5220 mg/m³, OECD 414, no adverse effect observed

Carcinogenicity Based on the available information, the classification criteria are not fulfilled.

Substance
Dodecane, CAS: 112-40-3
NOAEC, inhalative, Mouse (male), > 2200 mg/m³, OECD 453, no adverse effect observed

Aspiration hazard Based on available data, the classification criteria are met.
On basis of test data

General remarks

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

11.2 Information on other hazards

Endocrine disrupting properties Contains no ingredients with endocrine-disrupting properties.

Other information none

SECTION 12: Ecological information

12.1 Toxicity

Substance
Dodecane, CAS: 112-40-3
LC50, (96h), Oncorhynchus mykiss, > 1000 mg/l (OECD 203)
EC50, (72h), Pseudokirchneriella subcapitata, > 1000 mg/l (OECD 201)

12.2 Persistence and degradability

Behaviour in environment compartments No information available.

Behaviour in sewage plant No information available.

Biological degradability OECD 301F: 76%. 28d - The product is readily biodegradable.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

Spillages may penetrate the soil causing ground water contamination.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

Contains no ingredients with endocrine-disrupting properties.

12.7 Other adverse effects

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.
Do not discharge product unmonitored into the environment or into the drainage.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Coordinate disposal with the authorities if necessary.

Waste no. (recommended) 070104*
160508*

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Contaminated packing should be disposed of as product waste.

Waste no. (recommended) 150110* packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID number

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.2 UN proper shipping name

Transport by land according to ADR/RID	NO DANGEROUS GOODS
Inland navigation (ADN)	NO DANGEROUS GOODS
Marine transport in accordance with IMDG	NOT CLASSIFIED AS "DANGEROUS GOODS"
Air transport in accordance with IATA	NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.4 Packing group

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID	no
Inland navigation (ADN)	no
Marine transport in accordance with IMDG	no
Air transport in accordance with IATA	no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS	2008/98/EC 2000/532/EC); 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	ADR (2023); IMDG-Code (2023, 41. Amdt.); IATA-DGR (2023)
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
- Observe employment restrictions for people	Observe employment restrictions for young people.
- VOC (2010/75/CE)	100%

15.2 Chemical safety assessment

A chemical safety assessment is not yet available for this substance.

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

EUH066 Repeated exposure may cause skin dryness or cracking.
H304 May be fatal if swallowed and enters airways.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
EL50 = Median effective loading
ELINCS = European List of Notified Chemical Substances
EmS = Emergency Schedules
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
IVIS = In vitro irritation score
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
LL50 = Median lethal loading
LQ = Limited Quantities
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure Asp. Tox. 1: H304 May be fatal if swallowed and enters airways. (On basis of test data)

Modified position

SECTION 2 been added: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 2 been added: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 2 been added: The product is a hydraulic material. When mixed with water, an intended reaction takes place. As a result,
the product hardens and forms a solid mass, which does not react with its environment.

SECTION 10 been added: Forms explosive mixtures with air on intense heating.

SECTION 10 been added: Vapour/air-mixtures are explosive at intense warming.

SECTION 11 been added: Contains no ingredients with endocrine-disrupting properties.

SECTION 12 been added: Based on all available information not to be classified as PBT or vPvB respectively.

SECTION 12 been added: Contains no ingredients with endocrine-disrupting properties.