

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

Product form	: Substance
Trade name	: UN1105 iso-Amyl alcohol AGR
Chemical name	: pentanol isomers, with the exception of those specified elsewhere in this Annex
IUPAC name	: 3-methylbutan-1-ol
EC Index-No.	: 603-006-00-7
EC-No.	: 204-633-5
CAS-No.	: 123-51-3
Product code	: AMYL-00A
Formula	: C5H12O

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Main use category : Laboratory use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

labbox labware s.l.
Migjorn, 1
P.O. Box Barcelona (SPAIN)
08338 Premia de Dalt – SPAIN
ES
T +34 937 07 79 70 - F +34 937 909 532
info@labbox.com - www.labbox.com

1.4. Emergency telephone number

Emergency number : +34 937 077 970 (For technical information_Office Hours) In case of medical emergency phone 112 or to your local emergency number.

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Flammable liquids, Category 3	H226
Acute toxicity (inhal.), Category 4	H332
Skin corrosion/irritation, Category 2	H315
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H and EUH statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

Hazard statements (CLP)

Precautionary statements (CLP)

EUH-statements

- : Warning
- : H226 - Flammable liquid and vapour.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H332 - Harmful if inhaled.
H335 - May cause respiratory irritation.
- : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking.
P233 - Keep container tightly closed.
P240 - Ground and bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
- : EUH066 - Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	: Mono-constituent
Name	: Iso-Amyl alcohol
CAS-No.	: 123-51-3
EC-No.	: 204-633-5
EC Index-No.	: 603-006-00-7

Name	Product identifier	%
1-pentanol	CAS-No.: 71-41-0 EC-No.: 200-752-1 EC Index-No.: 603-200-00-1	
ISOAMYL ALCOHOL	CAS-No.: 123-51-3 EC-No.: 204-633-5	

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Get medical advice/attention if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash contaminated clothing before reuse. Wash with plenty of water/.... Get immediate medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.

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First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation : May cause respiratory irritation. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after skin contact : Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact : Pain, redness, itching, tears. Causes serious eye damage.
Symptoms/effects after ingestion : nausea, vomiting.

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

Never give anything by mouth to an unconscious person.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Carbon dioxide. Foam. Dry powder.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : fume.

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders

Protective equipment : Breathing apparatus. Equip cleanup crew with proper protection. Use personal protective equipment as required.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation. Collect spillage.

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Keep containers closed.
Precautions for safe handling : Ensure good ventilation of the work station. Eliminate all ignition sources if safe to do so. Wear personal protective equipment. Do not eat, drink or smoke when using this product. Take precautionary measures against static discharge.

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Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a well-ventilated place. Keep container tightly closed.

Storage area : Store away from heat. Store in a dry area. Remove all sources of ignition. Only store product in original container. Store in a cool, well-ventilated place. Labelling.

Special rules on packaging : Keep only in original container. Store in a closed container.

7.3. Specific end use(s)

Laboratory chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

UN1105 iso-Amyl alcohol AGR (123-51-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	18 mg/m ³

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

UN1105 iso-Amyl alcohol AGR (123-51-3)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	292 mg/m ³
Acute - local effects, inhalation	292 mg/m ³
Long-term - systemic effects, inhalation	73,16 mg/m ³
Long-term - local effects, inhalation	73,16 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	256,4 mg/m ³
Acute - local effects, inhalation	256,4 mg/m ³
Long-term - systemic effects, oral	25 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	15,4 mg/m ³
Long-term - local effects, inhalation	15,4 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	0,255 mg/l
PNEC aqua (marine water)	0,0255 mg/l
PNEC aqua (intermittent, freshwater)	2,55 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1,05 mg/kg dwt
PNEC sediment (marine water)	0,105 mg/kg dwt

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PNEC (Soil)	
PNEC soil	0,061 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	37 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station. Do not inhale vapour.

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure. EN 374.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Skin and body protection	
Type	Standard
Protective clothing	

Hand protection:

Protective gloves against chemicals (EN 374)

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask

Respiratory protection			
Device	Filter type	Condition	Standard
	Type P1		

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Molecular mass	: 88,15 g/mol
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: -147 °C Atm. press.: 1013 hPa Decomposition: 'no'
Freezing point	: Not available
Boiling point	: 130,7 °C Atm. press.: 1013,25 hPa
Flammability	: Not available
Explosive limits	: Not available
Lower explosion limit	: 1 vol %
Upper explosion limit	: Not available
Flash point	: 43,5 °C Atm. press.: 1013 hPa
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: 6,5
Viscosity, kinematic	: 5,32 mm ² /s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm ² /s)'
Viscosity, dynamic	: 4,3 mPa·s Temp.: '20°C' Parameter: 'dynamic viscosity (in mPa s)'
Solubility	: Water: 2,64 % Ethanol: 1,35
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 3 hPa Temp.: 20 °C
Vapour pressure at 50 °C	: Not available
Density	: 0,81 g/cm ³ Type: 'density' Temp.: 20 °C
Relative density	: Not available
Relative vapour density at 20 °C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapours may form explosive mixture with air.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Oxidizing materials.

10.4. Conditions to avoid

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

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Carbon dioxide.

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SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Harmful if inhaled.

UN1105 iso-Amyl alcohol AGR (123-51-3)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	≈ 3216 mg/kg bodyweight Animal: rabbit, Animal sex: male, 95% CL: 2373 - 4350
Skin corrosion/irritation	: Causes skin irritation. pH: 6,5
Serious eye damage/irritation	: Not classified pH: 6,5
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.

1-pentanol (71-41-0)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified

UN1105 iso-Amyl alcohol AGR (123-51-3)	
NOAEL (oral, rat, 90 days)	1250 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Aspiration hazard	: Not classified

UN1105 iso-Amyl alcohol AGR (123-51-3)	
Viscosity, kinematic	5,32 mm ² /s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm ² /s)'

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

UN1105 iso-Amyl alcohol AGR (123-51-3)	
LC50 - Fish [1]	700 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Daphnia [1]	255 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 500 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	493 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	274 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

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EC50 96h - Algae [2]

181 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

12.2. Persistence and degradability

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Persistence and degradability

Readily biodegradable.

Biodegradation

84 %

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)

: Disposal must be done according to official regulations.

Waste treatment methods

: Must follow special treatment according to local regulation.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR) : UN 1105

UN-No. (IMDG) : UN 1105

UN-No. (IATA) : UN 1105

UN-No. (ADN) : UN 1105

UN-No. (RID) : UN 1105

14.2. UN proper shipping name

Proper Shipping Name (ADR) : PENTANOLS

Proper Shipping Name (IMDG) : PENTANOLS

Proper Shipping Name (IATA) : Pentanols

Proper Shipping Name (ADN) : PENTANOLS

Proper Shipping Name (RID) : PENTANOLS

Transport document description (ADR) : UN 1105 PENTANOLS, 3, III, (D/E)

Transport document description (IMDG) : UN 1105 PENTANOLS, 3, III

Transport document description (IATA) : UN 1105 Pentanols, 3, III

Transport document description (ADN) : UN 1105 PENTANOLS, 3, III

Transport document description (RID) : UN 1105 PENTANOLS, 3, III

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14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 3
Danger labels (ADR) : 3



IMDG

Transport hazard class(es) (IMDG) : 3
Danger labels (IMDG) : 3



IATA

Transport hazard class(es) (IATA) : 3
Danger labels (IATA) : 3



ADN

Transport hazard class(es) (ADN) : 3
Danger labels (ADN) : 3



RID

Transport hazard class(es) (RID) : 3
Danger labels (RID) : 3



14.4. Packing group

Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

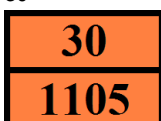
Classification code (ADR) : F1

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Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T2
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Operation (ADR)	: S2
Hazard identification number (Kemler No.)	: 30
Orange plates	:



Tunnel restriction code (ADR)	: D/E
EAC code	: •3YE

Transport by sea

Special provisions (IMDG)	: 223
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T2
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-D
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: Colourless liquids with a strong odour. Immiscible with water. Explosive limits: 1.2% to 10.5%

Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y344
PCA limited quantity max net quantity (IATA)	: 10L
PCA packing instructions (IATA)	: 355
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 366
CAO max net quantity (IATA)	: 220L
Special provisions (IATA)	: A3
ERG code (IATA)	: 3L

Inland waterway transport

Classification code (ADN)	: F1
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 0

Rail transport

Classification code (RID)	: F1
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T2

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Portable tank and bulk container special provisions (RID)	: TP1
Tank codes for RID tanks (RID)	: LGBF
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W12
Colis express (express parcels) (RID)	: CE4
Hazard identification number (RID)	: 30

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

No REACH Annex XVII restrictions

REACH Annex XIV (Authorisation List)

UN1105 iso-Amyl alcohol AGR is not on the REACH Annex XIV List

REACH Candidate List (SVHC)

UN1105 iso-Amyl alcohol AGR is not on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

UN1105 iso-Amyl alcohol AGR is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

UN1105 iso-Amyl alcohol AGR is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Iso-Amyl alcohol is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

Germany

Water hazard class (WGK)	: WGK 1, Slightly hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 597).
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen	: The substance is not listed
SZW-lijst van mutagene stoffen	: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	: The substance is not listed

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Denmark

Class for fire hazard	: Class II-1
Store unit	: 5 liter
Classification remarks	: R10 <H226;H315;H318;H332;H335>; Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations	: Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
EUH066	Repeated exposure may cause skin dryness or cracking.
Flam. Liq. 3	Flammable liquids, Category 3
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.