CAS No: 110-82-7 MSDS



MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance

:

EC index no : 601-017-00-1
EC no : 203-806-2
CAS No : 110-82-7
Product code : 00084
Formula : C6H12

Chemical structure



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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, H225 Category 2 Skin corrosion/irritation, H315 Category 2

toxicity — Single

Specific target organ H336

www.spanlab.in 09/04/2015 1/11

Safety Data Sheet

exposure, Category 3,

Narcosis

Aspiration hazard, H304

Category 1

Hazardous to the aquatic H410

environment — Chronic

Hazard, Category 1

Full text of classification categories and H statements : see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

F; R11 Xn; R65 Xi; R38 N: R50/53 **R67**

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. **Label elements**

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

Hazard pictograms (CLP)







GHS08



GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H336 - May cause drowsiness or dizziness

H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP) : P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray

P273 - Avoid release to the environment

P280 - Wear protective gloves/protective clothing/eye protection/face protection P301+P310 - IF SWALLOWED: immediately call a POISON CENTER or

doctor/physician

P331 - Do NOT induce vomiting

P501 - Dispose of contents/container to ...

2.3. Other hazards

No additional information available

www.spanlab.in 09/04/2015 2/11

Safety Data Sheet

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : CYCLOHEXANE SPECIALLY DRIED AR

CAS No : 110-82-7 EC no : 203-806-2 EC index no : 601-017-00-1

Full text of R- and H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Wash skin with plenty of

water. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse

immediately with plenty of water. Get medical advice/attention if you feel unwell.

First-aid measures after ingestion : Rinse mouth out with water. If you feel unwell, seek medical advice.

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

Symptoms/injuries after inhalation : May cause drowsiness or dizziness.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.

Explosion hazard : May form flammable/explosive vapour-air mixture.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked

lights. No smoking.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Avoid breathing dust/fume/gas/mist/vapours/spray.

www.spanlab.in 09/04/2015 3/11

Safety Data Sheet

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

: Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed

: Handle empty containers with care because residual vapours are flammable.: No naked lights. No smoking. Use only non-sparking tools. Avoid breathing

Precautions for safe handling

No naked lights. No smoking. Use only non-sparking tools. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash ... thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures

: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/... equipment.

Storage conditions : Keep in fireproof place. Keep container tightly closed.

Incompatible materials : Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Hand protection : protective gloves

Eye protection : Chemical goggles or safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : Wear respiratory protection

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Molecular mass : 84.16 g/mol Colour : Clear Colorless.

Odour : characteristic ether like odour.

Odour threshold : No data available

www.spanlab.in 09/04/2015 4/11

Safety Data Sheet

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single

exposure)

: May cause drowsiness or dizziness.

Specific target organ toxicity (repeated

exposure)

: Not classified

Aspiration hazard : May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Persistence and degradability May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

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CYCLOHEXANE SPECIALLY DRIED AR (110-8)	
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Log Pow 3.44

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

www.spanlab.in 09/04/2015 6/11

Safety Data Sheet

pH : No data available

Relative evaporation rate (butylacetate=1) : 2.6

Melting point : 4 - 7

Freezing point : No data available

Boiling point : $80.7 \,^{\circ}\text{C}$ Flash point : $-18 \,^{\circ}\text{C}$ Auto-ignition temperature : $260 \,^{\circ}\text{C}$

Decomposition temperature : No data available

Flammability (solid, gas) : Extremely flammable

Highly flammable liquid and vapour

Vapour pressure : 102.7 hPa at 20°C

Relative vapour density at 20 °C : No data available

Relative density : No data available

Density : 0.779 g/cm³

Solubility : Water: Insoluble in water

Log Pow : 3.44

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : No data available

Oxidising properties : No data available

Explosive limits : 0.01 - 0.09 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Open flame. Direct sunlight. Overheating. Heat. Sparks.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

May release flammable gases.

www.spanlab.in 09/04/2015 5/11

Safety Data Sheet



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) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : F1
Limited quantities (ADR) : 1L
Excepted quantities (ADR) : E2

Packing instructions (ADR) : P001, IBC02, R001

Mixed packing provisions (ADR) : MP19
Portable tank and bulk container : T4

instructions (ADR)

Portable tank and bulk container special : TP1

provisions (ADR)

Tank code (ADR) : LGBF
Vehicle for tank carriage : FL
Transport category (ADR) : 2
Special provisions for carriage - Operation : S2, S20

(ADR)

Hazard identification number (Kemler No.) : 33

www.spanlab.in 09/04/2015 8/11

Safety Data Sheet

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal

recommendations

: Dispose of contents/container to ...

Additional information : Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials : Hazardous waste due to toxicity.

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR) : 1145 UN-No. (IMDG) : 1145 UN-No.(IATA) : 1145 UN-No.(ADN) : 1145 UN-No. (RID) : 1145

14.2. UN proper shipping name

Proper Shipping Name (ADR) : CYCLOHEXANE
Proper Shipping Name (IMDG) : CYCLOHEXANE
Proper Shipping Name (IATA) : CYCLOHEXANE
Proper Shipping Name (ADN) : CYCLOHEXANE
Proper Shipping Name (RID) : CYCLOHEXANE

Transport document description (ADR) : UN 1145 CYCLOHEXANE, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS Transport document description (IMDG) : UN 1145 CYCLOHEXANE, 3, II, MARINE POLLUTANT/ENVIRONMENTALLY

HAZARDOUS (-18°C c.c.)

Transport document description (IATA) : UN 1145 CYCLOHEXANE, 3, II, ENVIRONMENTALLY HAZARDOUS : UN 1145 CYCLOHEXANE, 3, II, ENVIRONMENTALLY HAZARDOUS : UN 1145 CYCLOHEXANE, 3, II, ENVIRONMENTALLY HAZARDOUS : UN 1145 CYCLOHEXANE, 3, II, ENVIRONMENTALLY HAZARDOUS

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
Hazard labels (IATA) : 3

www.spanlab.in 09/04/2015 7/11

Safety Data Sheet

Orange plates : 33

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

- Transport by sea

Limited quantities (IMDG) : 1 L Excepted quantities (IMDG) : E2 Packing instructions (IMDG) : P001 IBC packing instructions (IMDG) : IBC02 Tank instructions (IMDG) : T4 : TP1 Tank special provisions (IMDG) : F-E EmS-No. (Fire) : S-D EmS-No. (Spillage) Stowage category (IMDG) : E

Flash point (IMDG) : -18°C c.c.

MFAG-No : 128

- Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity : 1L

(IATA)

PCA packing instructions (IATA) : 353
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L
ERG code (IATA) : 3H

- Inland waterway transport

Classification code (ADN) : F1
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EX, A Ventilation (ADN) : VE01

Number of blue cones/lights (ADN) : 1

- Rail transport

Classification code (RID) : F1
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2

Packing instructions (RID) : P001, IBC02, R001

Mixed packing provisions (RID) : MP19
Portable tank and bulk container : T4

instructions (RID)

Portable tank and bulk container special

provisions (RID)

: TP1

Tank codes for RID tanks (RID) : LGBF
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE7
Hazard identification number (RID) : 33

www.spanlab.in 09/04/2015 9/11

Safety Data Sheet

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

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

No REACH Annex XVII restrictions

CYCLOHEXANE SPECIALLY DRIED AR is not on the REACH Candidate List CYCLOHEXANE SPECIALLY DRIED AR is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 2, hazardous to water (Classification according to

VwVwS, Annex 2; WGK No 63)

12th Ordinance Implementing the Federal

Immission Control Act - 12.BImSchV

: Is not subject of the 12. BlmSchV (Hazardous Incident Ordinance)

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be

followed

Recommendations Danish Regulation : 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 R-, H- and EUH-phrases:

Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Asp. Tox. 1	Aspiration hazard, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H410	Very toxic to aquatic life with long lasting effects
R11	Highly flammable

www.spanlab.in 09/04/2015 10/11

Safety Data Sheet

R38	Irritating to skin
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R67	Vapours may cause drowsiness and dizziness
F	Highly flammable
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

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

www.spanlab.in 09/04/2015 11/11