

## Section 1. Identification

### 1.1 Product Identifier

CY2332

Product Name CYCLOHEXANE pure 500ml.

CAS Number 110-82-7

REACH Registration No 01-2119463273-41-XXXX

Molecular Formula  $\text{C}_6\text{H}_{12}$  = 84.16

### 1.2 Relevant identified uses of the substance or mixture & uses advised against

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

### 1.3 Supplier

WF Education Group



Phoenix House  
Battlefield Enterprise Park  
Stafford Drive  
Shrewsbury  
Shropshire  
SY1 3FE  
UNITED KINGDOM

Phone +44(0)1743 812200

Email sales@wf-education.com

Website www.timstar.co.uk

### 1.4 Emergency Telephone

(08:30-17:00) +44(0)1743 812200

(24hr) 112

(Have this document to hand)

## Section 2. Hazards Identification

### 2.1 Classification of the substance or mixture

#### Classification according to regulation 1272/2008/EC

Flammable liquid, category 2

Skin corrosion/irritation, category 2

Spec target organ tox - single, category 3

Aspiration hazard, category 1

Hazard to aquatic environment, category 1

Hazard to aquatic environment, category 1

H225: Highly flammable liquid and vapour.

H315: Causes skin irritation.

H336: May cause drowsiness or dizziness.

H304: May be fatal if swallowed and enters airways.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling according to regulation 1272/2008/EC

Signal word Danger

Hazard Pictograms



Hazard Statements Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Very toxic to aquatic life with long lasting effects.

Precautionary Statements Keep container tightly closed. Wear protective gloves / protective clothing / eye protection / face protection. Avoid breathing dust / fume / gas / mist / vapours / spray. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

## Section 3. Composition

### 3.1 Substances

| Component   | CAS No.  | EEC No.   | REACH No.             | Conc w/w | CLP Classification (1272/2008/CE)   |
|-------------|----------|-----------|-----------------------|----------|---|
| Cyclohexane | 110-82-7 | 203-806-2 | 01-2119463273-41-XXXX | >99.5%   | Flam. Liq. 2, Skin Irrit. 2, STOT SE 3 (D), Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1 |

## Section 4. First Aid

### 4.1 Description of first aid measures

|                                      |   |
|--------------------------------------|---|
| Eyes                                 | Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. If discomfort persists OBTAIN MEDICAL ATTENTION.  |
| Skin                                 | Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. OBTAIN MEDICAL ATTENTION.   |
| Inhalation                           | Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.                        |
| Ingestion                            | If conscious give plenty of water to drink. Do not induce vomiting. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY. |
| Personal protection for first aiders | Wear protective gloves / eye protection.  |

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

No further relevant information available.

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

No further relevant information available.

## Section 5. Fire Fighting

### 5.1 Extinguishing media

|                     |  |
|---------------------|--|
| Extinguishing Media | Alcohol resistant foam, dry powder, carbon dioxide or vaporising liquid. Use water spray to keep fire exposed containers cool. |
| Unsuitable Media    | Do not use water jet.  |

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

|         |                                    |
|---------|------------------------------------|
| Hazards | Vapour-air mixtures are explosive. |
|---------|------------------------------------|

### 5.3 Advice for firefighters

|                         |  |
|-------------------------|--|
| Advice for firefighters | Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus. |
|-------------------------|--|

## Section 6. Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

|                     |   |
|---------------------|---|
| Personal Protection | Ensure no sources of ignition. Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. Beware : vapour is heavier than air and will tend to accumulate at low spots. |
|---------------------|---|

### 6.2 Environmental precautions

Environmental Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

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

Major Spillage Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.

Minor Spillage Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.

### 6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

## Section 7. Storage & Handling

### 7.1 Precautions for safe handling

All transfer systems should be earthed to prevent accumulation of static electricity. Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

### 7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage . Protect from direct sun and store away from sources of ignition. Keep containers closed when not in use. Keep well separated from oxidising agents.

### 7.3 Specific end use(s)

See section 1.2.

## Section 8. Workplace Exposure & Personal Protection

### 8.1 Control parameters

| Component   | CAS No   | Concentration | Workplace Exposure Limits |                         |           |               |
|-------------|----------|---------------|---------------------------|-------------------------|-----------|---------------|
|             |          |               | Long Term (8hr TWA)       | Short Term 15min period |           |               |
| Cyclohexane | 110-82-7 | >99.5%        | 100.0 ppm                 | 300.0 mg/m-3            | 350.0 ppm | 1050.0 mg/m-3 |

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

### 8.2 Exposure controls

Respiratory Protection Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge organic vapour respirator, or use self contained breathing apparatus.

Hand Protection Use solvent resistant gloves.

Eye Protection Use tightly fitting chemical splash proof glasses or goggles.

Skin Protection Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

Special Hazards No special precautions required.

## Section 9. Physical & Chemical Properties

### 9.1 Information on basic physical and chemical properties

Appearance Clear colourless liquid.

Odour Characteristic.

pH Not applicable

Boiling Point 80.7°C

Melting Point 6.5°C

Flash Point -18°C (Closed cup)

Upper Flammable Limit 8%

Lower Flammable Limit 1.3%

Auto Ignition 260°C

Explosive Properties Severe in confined spaces.

Oxidising Properties No.

|                  |                |
|------------------|----------------|
| Vapour Pressure  | 100mmHg @ 61°C |
| Relative Density | 0.7800         |
| Water Solubility | 0.01%          |

## 9.2 Other information

No data available.

## Section 10. Stability & Reactivity

|   |   |
|---|---|
| 10.1 Reactivity                         | No data available.  |
| 10.2 Chemical Stability                 | Stable under normal conditions  |
| 10.3 Possibility of hazardous reactions | No data available.  |
| 10.4 Conditions to Avoid                | Hot surfaces, naked flames or other sources of ignition.  |
| 10.5 Incompatible Materials             | Strong oxidising agents. Inter halogen compounds eg.bromide tri and pentafluoride, iodine penta and heptafluorides etc. |
| 10.6 Hazardous Decomposition Products   | None unusual. Burning will produce smoke, carbon monoxide and/or carbon dioxide.  |

## Section 11. Toxicological Information

### 11.1 Information on toxicological effects

|                      |  |
|----------------------|--|
| Eyes                 | Both the vapour and liquid are, irritating to the eyes.  |
| Skin                 | Repeated or prolonged contact may defat the skin producing irritation and dermatitis.  |
| LD50 Skin            | >2000mg/kg Rabbit  |
| Ingestion            | May be fatal if swallowed and enters airways.  |
| LD50 Oral            | >5000mg/kg Rat   |
| Inhalation           | Exposure to vapour concentrations above the occupational exposure limits may produce irritation of the eyes and respiratory tract. High concentrations of vapour will cause narcosis, anaesthesia and fatigue. |
| LD50 Inhalation      | 32880mg/m <sup>3</sup> Rat (4 hours)   |
| TCLo                 | Not available  |
| Carcinogenicity      | Not considered to be a carcinogen.   |
| Mutagenicity         | Not considered to be a mutagen.  |
| Reproductive Effects | None identified.   |

## Section 12. Ecological

|                                       |   |
|---------------------------------------|---|
| 12.1 Toxicity                         | Moderately toxic to mammals, fish and bacteria. Very Toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment. |
| LC50 Algal                            | Not available   |
| LC50 Crustacea                        | 0.9mg/l Daphnia magna (48 hours)  |
| LC50 Fish                             | 4.53mg/l Fathead Minnow (96 hours)  |
| 12.2 Persistence and degradability    | No data available.  |
| 12.3 Bioaccumulative potential        | No data available.  |
| 12.4 Mobility in soil                 | No data available.  |
| 12.5 Results of PBT & vPvB assessment | Assessment not required.  |
| 12.6 Other adverse effects            | None known at present.  |

## Section 13. Disposal Considerations

### 13.1 Waste treatment methods

|                        |  |
|------------------------|--|
| Disposal Methods       | Dispose of in a licensed incinerator for organic solvents. Do not dispose of as domestic waste. Never dispose of into water courses or sewerage systems due to high risk of explosion. |
| Contaminated Packaging | Use a licensed waste disposer. Do not attempt to burn any residual liquids due to risk of explosion.   |

## Section 14. Transport Information

|                                   |                                  |
|-----------------------------------|----------------------------------|
| 14.1 UN Number                    | 1145                             |
| 14.2 Proper Shipping Name         | Cyclohexane                      |
| 14.3 Transport classes            |                                  |
| UN classification                 | 3                                |
| Subsidiary hazard(s)              | None                             |
| Transport category                | 2                                |
| ADR Hazard ID                     | 33                               |
| Tunnel Restriction Code           | D/E                              |
| 14.4 Packing Group                | II                               |
| 14.5 Environment hazards          | See section 12.                  |
| 14.6 Special precautions for user | No special precautions required. |
| 14.7 Transport in bulk            | Not transported in bulk.         |



## Section 15. Regulatory Information

### 15.1 Safety, health and environment regulations specific for substance/mixture.

#### Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Flammable liquid, category 2; Skin corrosion/irritation, category 2; Spec target organ tox - single, category 3; Aspiration hazard, category 1; Hazard to aquatic environment, category 1; Hazard to aquatic environment, category 1

Signal word Danger

Hazard Pictograms



Hazard Statements H225, H304, H315, H336, H410  
Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Very toxic to aquatic life with long lasting effects.

Precautionary Statements P233, P280, P261, P301+P310, P331  
Keep container tightly closed. Wear protective gloves / protective clothing / eye protection / face protection. Avoid breathing dust / fume / gas / mist / vapours / spray. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

### 15.2 Chemical safety assessment

Assessment not required.

## Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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