

## SAFETY DATA SHEET

# Refractive Index Standard, RI-05, RI-05K

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

### 1.1. Product identifier

#### ▼ Trade name

Refractive Index Standard, RI-05, RI-05K

#### ▼ Product no.

RI-05, RI-05K

#### Other means of identification

Index No.: 601-018-00-7

EC No.: 203-624-3

CAS No.: 108-87-2

#### Unique formula identifier (UFI)

5TT4-MXJQ-KUC2-TQD5

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

#### Relevant identified uses of the substance or mixture

Laboratory use

Restricted to professional users.

#### Uses advised against

None known.

### 1.3. Details of the supplier of the safety data sheet

#### Company and address

##### **ARO Scientific Ltd**

Unit 1 Bridgeway Business Park,

Ditton Road

WA8 0QE Widnes

England

+44 (0)151 424 2828

#### Contact person

Technical Help

#### E-mail

technical@aroscscientific.com

#### Revision

12/09/2025

#### SDS Version

3.0

#### Date of previous version

10/08/2025 (2.0)

### 1.4. Emergency telephone number

Healthcare professionals: Dial 0344 892 0111 to reach The National Poisons Information Service (NPIS) (24 hour service)

General public:

England - Dial 111 to reach NHS 111 (24 hour service)

Scotland - Dial 111 to reach NHS 24 (24 hour service)

Wales - Dial 111 or 0845 4647 to reach NHS Direct (24 hour service)

See section 4 "First aid measures".

## SECTION 2: Hazards identification

Classified according to Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

### 2.1. Classification of the substance or mixture

Flam. Liq. 2; H225, Highly flammable liquid and vapour.

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

Skin Irrit. 2; H315, Causes skin irritation.

STOT SE 3; H336, May cause drowsiness or dizziness.

Aquatic Chronic 2; H411, Toxic to aquatic life with long lasting effects.

### 2.2. Label elements

#### Hazard pictogram(s)



#### Signal word

Danger

#### Hazard statement(s)

Highly flammable liquid and vapour. (H225)

May be fatal if swallowed and enters airways. (H304)

Causes skin irritation. (H315)

May cause drowsiness or dizziness. (H336)

Toxic to aquatic life with long lasting effects. (H411)

#### Precautionary statement(s)

##### General

Not applicable.

##### Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)

Avoid breathing mist/vapour. (P261)

Wash hands and exposed skin thoroughly after handling. (P264)

Avoid release to the environment. (P273)

Wear protective gloves/protective clothing/eye protection/face protection. (P280)

##### Response

IF SWALLOWED: Immediately call a POISON CENTER/doctor. (P301+P310)

Do NOT induce vomiting. (P331)

##### Storage

Store in a well-ventilated place. Keep cool. (P403+P235)

##### Disposal

Dispose of contents/container in accordance with local regulation. (P501)

#### Hazardous substances

methylcyclohexane

#### Additional labelling

UFI: 5TT4-MXJQ-KUC2-TQD5

### 2.3. Other hazards

#### Additional warnings

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2023/707.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Product/substance	Identifiers	% w/w	Classification	Note
methylcyclohexane	CAS No.: 108-87-2 EC No.: 203-624-3 UK-REACH: Index No.: 601-018-00-7	95-100%	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 2, H411	

### 3.2. Mixtures

Not applicable. This product is a substance.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

### Other information

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

#### Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

#### Skin contact

Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners. If skin irritation occurs: Get medical advice/attention.

#### Eye contact

If in eyes: Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Remove contact lenses. Seek medical assistance and continue flushing during transport.

#### Ingestion

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do not induce vomiting! If vomiting occurs, keep head facing down so that vomit does not get into the lungs. Call a doctor or ambulance. Symptoms of chemical pneumonia can appear after several hours. People who have swallowed the product should therefore be kept under medical attention for at least 48 hours.

#### Burns

Rinse with water until pain stops then continue to rinse for 30 minutes.

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

This product contains substances that can cause chemical pneumonia if swallowed. Symptoms of chemical pneumonia may appear after several hours.

Neurotoxic effects: This product contains organic solvents, which may cause adverse effects to the nervous system. Symptoms of neurotoxicity include: loss of appetite, headache, dizziness, ringing in ears, tingling sensations of skin, sensitivity to the cold, cramps, difficulty in concentrating, tiredness, etc. Repeated exposure to solvents can result in the breaking down of the skin's natural fat layer and may result in an increased absorption potential of other hazardous substances at the area of exposure.

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

IF exposed or concerned:

Get immediate medical advice/attention.

### Information to medics

Bring this safety data sheet or the label from this product.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

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

Highly flammable liquid and vapour.

In use may form flammable/explosive vapour-air mixture.

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Carbon oxides (CO / CO<sub>2</sub>)

### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.

Hazchem Code: 3YE

## SECTION 6: Accidental release measures

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

Storages not yet ignited must be cooled by water mist. Remove flammable materials if conditions allow it. Ensure sufficient ventilation.

Avoid direct contact with spilled substances.

Ensure adequate ventilation, especially in confined areas.

Avoid inhalation of vapours from spilled material.

Contaminated areas may be slippery.

### 6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

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

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

### 6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Ground and bond container and receiving equipment.

Use explosion-proof [electrical/lighting/ventilating] equipment.

Use non-sparking tools.

Take action to prevent static discharges.

It is recommended to install waste collection trays in order to prevent emissions to the waste water system and surrounding environment.

Avoid direct contact with the product.

Avoid contact during pregnancy and while nursing.

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

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

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Take action to prevent static discharges.

Must be stored in a cool and well-ventilated area, away from possible sources of ignition.

### Recommended storage material

Always store in containers of the same material as the original container.

### Storage conditions

No specific requirements.

### Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

## 7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No substances are listed in the national list of substances with an occupational exposure limit.

#### DNEL

methylcyclohexane

Duration:	Route of exposure:	DNEL:
Long term – Systemic effects - General population	Dermal	800 µg/kg bw/day
Long term – Systemic effects - Workers	Dermal	1.7 mg/kg bw/day
Long term – Systemic effects - General population	Inhalation	16 mg/m <sup>3</sup>
Long term – Systemic effects - Workers	Inhalation	64.3 mg/m <sup>3</sup>
Short term – Systemic effects - General population	Inhalation	1016 mg/m <sup>3</sup>
Short term – Systemic effects - Workers	Inhalation	1354.6 mg/m <sup>3</sup>
Long term – Systemic effects - General population	Oral	400 µg/kg bw/day

#### PNEC

methylcyclohexane

Route of exposure:	Duration of Exposure:	PNEC:
Freshwater		1.34 µg/L
Freshwater sediment		36.2 µg/kg
Intermittent release (freshwater)		13.4 µg/L
Marine water		134 ng/L
Marine water sediment		3.62 µg/kg
Sewage treatment plant		273 µg/L
Soil		9.7 µg/kg

### 8.2. Exposure controls

Apply general control to prevent unnecessary exposure

#### General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

#### Exposure scenarios

There are no exposure scenarios implemented for this product.

#### Exposure limits

Occupational exposure limits have not been defined for the substances in this product.

## Appropriate technical measures

Apply standard precautions during use of the product. Avoid inhalation of vapours.

## Hygiene measures

Take off contaminated clothing and wash it before reuse.

## Measures to avoid environmental exposure

Keep damming materials near the workplace. If possible, collect spillage during work.

## Individual protection measures, such as personal protective equipment


### Generally

Use only UKCA marked protective equipment.

### Respiratory Equipment

Type	Class	Colour	Standards
Respiratory protection is not needed in the event of adequate ventilation.			


### Skin protection

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

### Hand protection

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0,3	> 480	EN374-2, EN16523-1, EN388	

### Eye protection

Type	Standards	
Safety glasses	EN ISO 16321-1	

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Physical state

Liquid

#### Colour

No data available.

#### Odour / Odour threshold

No data available.

#### pH

No data available.

#### Density (g/cm<sup>3</sup>)

No data available.

#### Kinematic viscosity

No data available.

#### Particle characteristics

Does not apply to liquids.

## Phase changes

### Melting point/Freezing point (°C)

No data available.

### Softening point/range (°C)

Does not apply to liquids.

### Boiling point (°C)

No data available.

### Vapour pressure

No data available.

### Relative vapour density

No data available.

### Decomposition temperature (°C)

No data available.

## Data on fire and explosion hazards

### Flash point (°C)

No data available.

### Flammability (°C)

The material is ignitable.

### Auto-ignition temperature (°C)

No data available.

### Lower and upper explosion limit (% v/v)

No data available.

## Solubility

### Solubility in water

No data available.

### n-octanol/water coefficient (LogKow)

No data available.

### Solubility in fat (g/L)

No data available.

## 9.2. Other information

### Oxidizing properties

No data available.

### Other physical and chemical parameters

No data available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No data available.

### 10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Avoid static electricity.

Do not expose to any forms of heat (e.g. solar radiation). May lead to excess pressure.

### 10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 as retained and amended in UK law

#### ▼ Acute toxicity

Based on available data for the mixture, the classification criteria are not met.

#### Skin corrosion/irritation

Causes skin irritation.

#### ▼ Serious eye damage/irritation

Based on available data for the mixture, the classification criteria are not met.

#### ▼ Respiratory sensitisation

Based on available data for the mixture, the classification criteria are not met.

#### ▼ Skin sensitisation

Based on available data for the mixture, the classification criteria are not met.

#### ▼ Germ cell mutagenicity

Based on available data for the mixture, the classification criteria are not met.

#### ▼ Carcinogenicity

Based on available data for the mixture, the classification criteria are not met.

#### ▼ Reproductive toxicity

Based on available data for the mixture, the classification criteria are not met.

#### STOT-single exposure

May cause drowsiness or dizziness.

#### ▼ STOT-repeated exposure

Based on available data for the mixture, the classification criteria are not met.

#### Aspiration hazard

May be fatal if swallowed and enters airways.

### 11.2. Information on other hazards

#### Long term effects

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs.

Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

Neurotoxic effects: This product contains organic solvents, which may cause adverse effects to the nervous system.

Symptoms of neurotoxicity include: loss of appetite, headache, dizziness, ringing in ears, tingling sensations of skin, sensitivity to the cold, cramps, difficulty in concentrating, tiredness, etc. Repeated exposure to solvents can result in the breaking down of the skin's natural fat layer and may result in an increased absorption potential of other hazardous substances at the area of exposure.

#### Endocrine disrupting properties

This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

#### Other information

None known.

## SECTION 12: Ecological information

### 12.1. Toxicity

Toxic to aquatic life with long lasting effects.

### 12.2. ▼ Persistence and degradability

Based on available data for the mixture, the classification criteria are not met.

### 12.3. ▼ Bioaccumulative potential

Based on available data for the mixture, the classification criteria are not met.

### 12.4. Mobility in soil

No data available.

### 12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

## 12.6. Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

## 12.7. Other adverse effects

This product contains substances that are toxic to the environment. May result in adverse effects to aquatic organisms.

This product contains substances, which may cause adverse long-term effects to the aquatic environment.

## SECTION 13: Disposal considerations

### Waste treatment methods

Product is covered by the regulations on hazardous waste.

HP 3 - Flammable

HP 4 - Irritant (skin irritation and eye damage)

HP 5 - Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

HP 14 - Ecotoxic

Dispose of contents/container to an approved waste disposal plant.

Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

### EWC code





Not applicable.


### Specific labelling

### Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

## SECTION 14: Transport information

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other informatio n:
ADR	UN2296	METHYLCYCLOHEXANE	Transport hazard class: 3 Label: 3 Classification code: F1  	II	Yes	Limited quantities: 1 L Tunnel restriction code: (D/E) See below for additional information.
IMDG	UN2296	METHYLCYCLOHEXANE	Transport hazard class: 3 Label: 3 Classification code: F1  	II	Yes	Limited quantities: 1 L EmS: F-E S-D See below for additional information.
IATA	UN2296	METHYLCYCLOHEXANE	Transport hazard class: 3 Label: 3	II	Yes	See below for

14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
		Classification code: F1 			additional information.

\* Packing group

\*\* Environmental hazards

#### Additional information

This product is within scope of the regulations of transport of dangerous goods.

ADR / See Table A, section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.

IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.

IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

Hazchem Code: 3YE

#### 14.6. Special precautions for user

Not applicable.

#### 14.7. Maritime transport in bulk according to IMO instruments

No data available.

## SECTION 15: Regulatory information

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

#### Restrictions for application

Restricted to professional users.

People under the age of 18 shall not be exposed to this product.

Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered.

#### Demands for specific education

No specific requirements.

#### Control of Major Accident Hazards (COMAH) - Categories / dangerous substances

P5c - FLAMMABLE LIQUIDS, Qualifying quantity (lower-tier): 5.000 tonnes / (upper-tier): 50.000 tonnes

E2 - ENVIRONMENTAL HAZARDS, Qualifying quantity (lower-tier): 200 tonnes / (upper-tier): 500 tonnes

#### UK-REACH, Annex XVII

methylcyclohexane is subject to UK-REACH restrictions (entry 40).

#### Additional information

Not applicable.

#### Sources

The Health and Safety at Work etc. Act 1974 Regulations 2013.

Control of Major Accident Hazards (COMAH) Regulations 2015.

Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law.

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as retained and amended in UK law.

### 15.2. Chemical safety assessment

No

## SECTION 16: Other information

### Full text of H-phrases as mentioned in section 3

- 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.
- H411, Toxic to aquatic life with long lasting effects.

### Abbreviations and acronyms

- ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- CAS = Chemical Abstracts Service
- CE = Conformité Européenne (European conformity)
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- CSA = Chemical Safety Assessment
- CSR = Chemical Safety Report
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EINECS = European Inventory of Existing Commercial chemical Substances
- ES = Exposure Scenario
- EUH statement = CLP-specific Hazard statement
- EuPCS = European Product Categorisation System
- EWG = European Waste Catalogue
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- GWP = Global warming potential
- IARC = International Agency for Research on Cancer (IARC)
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- OECD = Organisation for Economic Co-operation and Development
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- RRN = REACH Registration Number
- SCL = A specific concentration limit
- SVHC = Substances of Very High Concern
- STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
- STOT-SE = Specific Target Organ Toxicity - Single Exposure
- TWA = Time weighted average
- UN = United Nations
- UVBC = Unknown or variable composition, complex reaction products or of biological materials
- VOC = Volatile Organic Compound
- vPvB = Very Persistent and Very Bioaccumulative

### Additional information

- The classification of the substance/mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.
- The classification of the substance/mixture in regard of environmental hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

The classification of the mixture in regard to physical hazards has been based on experimental data.

The safety data sheet is validated by

Technical Help

#### Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

Country-language: GB-en