SAFETY DATA SHEET

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

1.1 Product identifiers

Product name :Qualification Solutions for Refractive Index

Product Number : 49102-RI
Brand : MICROSOLV™

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

Identified uses : Laboratory chemicals, research purposes

1.3 Details of the supplier of the safety data sheet

Company : MICROSOLV™ Technology
9158 Industrial Blvd
Leland NC 28451
UNITED STATES

Telephone : +1 732 380-8900
Fax : +1 910 769-9435

1.4 Emergency telephone number

Emergency Phone # : +1-732-380-8900

SECTION 2: Hazards identification

2.1 **Classification of the substance or mixture** 2.1. Classification of the substance or mixture

Acute toxicity, Oral (Category 4), H302 Short-term (acute) aquatic hazard (Category 3), H402

2.2 **GHS Label elements, including precautionary statements** Hazard pictograms (GHS-US) : GHS07 Signal word (GHS-US) : Warning

Hazard Statements May form combustible dust concentrations in air.
H302 Harmful if swallowed.
402 Harmful to aquatic life. Precautionary Statements
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P301 + P312 + P330
IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
Rinse mouth. P501 Dispose of contents/ container to an approved waste disposal plant.

GHS07

2.3 **Hazards not otherwise classified (HNOC) or not covered by GHS** - none

SECTION 3: Composition / information on ingredients

3.1 Substances

Synonyms : 1,3,7-Trimethylxanthine

3.2 Mixtures

Name	Product identifier	%	GHS-US classification
Caffeine	(CAS-No.) 58-08-2	up to 2.00	Acute toxicity, Oral (Category 4), H302 Short-term (acute) aquatic hazard (Category 3), H402
Water	(CAS-No.) 7732-18-5	90	NA
Acetonitrile	(CAS- No.) 75-05-8	10	Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 4), H332

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SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled
Allow victim to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact : Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get 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. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Classification: Acute oral toxicity (Category 4), Combustible dust
Signal Word: Warning
Hazard Statements: Harmful if swallowed
Precautionary Statements: Avoid ingestion, wash hands thoroughly after handling.

4.3 Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
If in laboratory setting, follow laboratory fire suppression prcedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

5.2 Special hazards arising from the substance or mixture

Not flammable.

5.3 Advice for firefighters

Not flammable.

5.4 Further information

Use water spray or fog for cooling exposed containers. Emits toxic fumes under fire conditions.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Gloves. Safety glasses.

6.2 Environmental precautions

Prevent entry to sewers and public waters.

6.3 Methods and materials for containment and cleaning up

Sweep up and dispose of in accordance with local regulations.

6.4 Reference to other sections

Exposure controls and
personal protection.

SECTION 7: Handling and storage

7.1 Precautions for safe handling: Wear protective equipment. Wash hands and other exposed areas with mild soap

7.2 Conditions for safe storage, including any incompatibilities

Avoid ingestion.

Storage: Store in a cool, dry place away from incompatible materials.

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7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

Personal protective equipment

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The glove material has to be impermeable and resistant to the product/ substance/the preparation being handled/used.

Eye protection: Safety glasses with wide shields or goggles.

Respiratory protection

No special protective equipment required in normal conditions. Use suitable respiratory protective device when high concentrations are present.

Control of environmental exposure

Prevent product from entering drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	Odorless

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c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	No data available
h)	Evaporation rate	No data available No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	
k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	1.000 g/cm3 at 3.98 °C (39.16 °
n)	Water solubility	completely miscible
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials
No data available

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10.6 Hazardous decomposition products

Hydrogen chloride.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity : Acute toxicity LD50 Oral - Rat - male and female - 367.7 mg/kg (OECD Test Guideline 401) Remarks: (Regulation (EC) No 1272/2008, Annex VI) LC50 Inhalation - Rat - male and female - 4 h - 4.94 mg/l - aerosol (OECD Test Guideline 403) LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402) Skin corrosion/irritation Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404) Serious eye damage/eye irritation Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405) Respiratory or skin sensitization Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429) Germ cell mutagenicity Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells Metabolic activation: without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: Chromosome aberration test in vitro Test system: Human lymphocytes Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative Test Type: Chromosome aberration test in vitro Test system: Chinese hamster lung cells Metabolic activation: without metabolic activation Method: OECD Test Guideline 473 Result: positive

Skin corrosion/irritation

Causes skin irritation. pH: 1

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Repeated dose toxicity - Mouse - male and female - Oral - 90 d - NOAEL (No observed adverse effect level) - 167.4 - 179.4 mg/kg Remarks: (ECHA) RTECS: EV6475000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. After absorption of toxic quantities: Diarrhea Vomiting agitation Headache Systemic effects: drop in blood pressure tachycardia collapse Handle in accordance with good industrial hygiene and safety practice. Liver - Irregularities - Based on Human Evidence Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish Toxicity to daphnia and other aquatic invertebrates Toxicity to algae Toxicity to bacteria static test LC50 - Leuciscus idus (Golden orfe) - ca. 87 mg/l - 96 h (DIN 38412 part 15) static test NOEC - Leuciscus idus (Golden orfe) - 46 mg/l - 96 h (DIN 38412 part 15) static test EC50 - Daphnia magna (Water flea) - 182 mg/l - 48 h (DIN 38412) static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201) EC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)

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12.2 Persistence and degradability
Biodegradability

aerobic - Exposure time 22 d Result:
90 - 100 % - Readily biodegradable.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Avoid release to the environment.

SECTION 14: Transport information

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

SARA 311/312 (Specific toxic chemcial listings
Acute

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

RCRA Hazards
None of the ingredients listed

TSCA (Toxic Substances Control Act)
No substances are subject to a Significant New Use Rule. No substances are subject to TSCA 12(b) export notification requirements.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)
This material does not contain any components with a CERCLA RQ.

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CAS-No.
7732-18-5

Revision Date

Revision Date

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. MicroSolv™ Technology and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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