

SAFETY DATA SHEET

ERA - Waters Analytical Standards & Reagents

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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Product Name(s): Raman Spec Kit - Thermo
Catalog / Part Number(s): Kit number: TFRAM01
Individual parts: Acetaminophen Vial ID - TFAC01; Cyclohexane Vial ID - TFCY01; Polystyrene Vial ID - TFPS01.

Product Use: For laboratory use only. Certified reference material or analytical test standard used in laboratories.
SDS Creation Date: January 25, 2013 Revision Date: NA SDS Reference Number: TFRAM01

SECTION 2: HAZARDS IDENTIFICATION

Classification & labeling according to Table 3.1 Annex VI of regulation 1272/2008/EU as amended. GHS Classification: Hazard Class and Category Code:

Acetaminophen: Acute toxicity, Oral 4; Skin irritation 2; Eye irritation 2A; Specific target organ toxicity – single exposure 3; Acute aquatic toxicity 2.

Cyclohexane: Flammable liquids 2; Acute toxicity, Inhalation 4; Acute toxicity, Dermal 5; Eye irritation 2B; Specific target organ toxicity – single exposure 3; Aspiration hazard 1; Acute aquatic toxicity 1; Chronic aquatic toxicity 1.

Polystyrene: Not classified as hazardous.

GHS/CLP Label Elements – Pictogram(s):

Acetaminophen:  Signal Word: Warning

Hazard statements: H302 Harmful if swallowed; H315 Causes skin irritation; H319 Causes serious eye irritation; H335 May cause respiratory irritation; H401 Toxic to aquatic life. **Precautionary statements:** P261 Avoid breathing dust/fume/gas/mist/vapours/spray; P305+P351+P338 If in Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Cyclohexane:  Signal Word: Danger

Hazard statements: H225 Highly Flammable liquid and vapor; H304 May be fatal if swallowed and enters airways; H313 May be harmful in contact with skin; H320 Causes eye irritation; H332 Harmful if inhaled; H336 May cause drowsiness or dizziness; H410 Very toxic to aquatic life with long lasting effects. **Precautionary statements:** 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; P301+P310 If swallowed: Immediately call a POISON CENTER or doctor/physician; P305+P351+P338 If in Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing; P331 Do NOT induce vomiting; P501 Dispose of contents/container to an approved waste disposal plant.

The small quantities supplied in our products are unlikely to cause severe or immediate health effects. Use only as directed and in accordance with good lab practices. For laboratory use only; not for drug, household or other uses.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL INGREDIENT NAME	CAS NUMBER	EC NUMBER	% BY WT.	EXPOSURE LIMITS		
				OSHA	ACGIH	EU IOELV
Acetaminophen (Vial ID - TFAC01)	103-90-2	203-157-5	100	NA	NA	NA
Cyclohexane (Vial ID - TFCY01)	110-82-7	203-806-2	100	300 ppm; 1050 mg/m3	100 ppm	100 ppm; 350 mg/m3
Polystyrene, Poly(styrene-co-divinylbenzene) (Vial ID - TFPS01)	NA	NA	100	NA	NA	NA

Notes: Kit consists of 3 sample containers. Acetaminophen (TFAC01) contains approximately 1 g per vial. Cyclohexane (TFCY01) contains 2 mL per vial. Polystyrene (TFPS01) contains 1 g per vial. Exposure Limits are 8-Hour TWA. (Time Weighted Average) unless designated C (Ceiling) or STEL (Short Term Exposure Limit).

SECTION 4: FIRST-AID MEASURES

Inhalation: Remove to fresh air. Skin Contact: Wash off with soap & water.
Eye Contact: Immediately flush with water for a minimum of 15 minutes.
Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5: FIRE-FIGHTING MEASURES

Flammable Properties: Flammable liquids in the presence of a source of ignition when the temperature is above the flash point. Keep away from sparks/open flame.

Extinguishing Media: Water spray, dry chemical, carbon dioxide or appropriate foam.

Unique Aspects Contributing To a Fire: NA

Special Fire Fighting Procedures: Same as for any flammable liquids. Note: As in any fire, wear self-contained breathing apparatus, and full protective gear.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

Due to small quantities involved, spills or leaks should not pose a significant problem. Contain spill; absorb with spill pillow or other absorbent and place in closed container for proper disposal according to local regulations.

SECTION 7: HANDLING AND STORAGE

Keep container tightly closed. Store at Room Temperature. Handle in accordance with good laboratory practices. This product is intended for use only by people trained in the safety and handling of chemicals and laboratory preparations.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Handle in accordance with good laboratory practices.

Respiratory Protection: Not normally needed. If exposure limits are exceeded, use approved/certified respirator.

Eye Protection: Safety glasses with side shields or Splash goggles. Skin Protection: Neoprene or other chemical resistant gloves.

Disposable nitrile is acceptable for light intermittent exposure.

Engineering Controls: Work in a fume hood or use general or other local exhaust ventilation to meet Exposure Limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information for Cyclohexane (most hazardous component)

Appearance:	Colorless	Specific Gravity:	0.779 g/cm ³ at 25°C 77°F	Melting Point:	4-7°C 39-45°F (literature)
Physical State:	Liquid	Flash Point:	-18°C -0.4°F	Vapor Pressure:	102.7 hPa 77 mmHg @20°C 68°F
Odor:	NA	Explosion Limits:	LEL 1% UEL 9%	Vapor Density (air=1):	NA
pH:	NA	Boiling Point:	80.7°C 177.3°F (literature)	Solubility in Water:	NA

SECTION 10: STABILITY AND REACTIVITY

Hazardous Polymerization Will Not Occur May Occur Stability: Stable Unstable

Hazardous Decomposition/Combustion Products: Nitrogen oxides, Carbon oxides.

Conditions and Materials to Avoid: Heat, flame, sources of ignition. Oxidizing agents.

SECTION 11: TOXICOLOGICAL INFORMATION

Primary Route(s) of Exposure under Normal Use: Inhalation, Skin absorption, Skin contact.

Target Organ(s): Acetaminophen: Liver, Kidney. Cyclohexane: Lungs, Central nervous system.

Signs & Symptoms of Exposure: May be harmful if inhaled or absorbed through skin. Causes respiratory tract, skin & eye irritation. May be harmful if swallowed.

Prolonged Exposure: Cyclohexane: Central nervous system depression, drowsiness, irritability, dizziness, lung irritation, chest pain, pulmonary edema.

Acute Toxicity: Acetaminophen: LD50 Oral, rat = 1944 mg/kg. Cyclohexane: LD50 Oral, rat = 12,705 mg/kg; LC50 Inhalation, rat 4h = 13,900 mg/m³; LD50 Dermal, rabbit = >2,000 mg/kg. Polystyrene: LD50 Oral, rat = 5000 mg/kg

Other Information: Chemical Ingredient(s) not classified as carcinogen(s) by OSHA, IARC, NTP, ACGIH, or California.

SECTION 12: ECOLOGICAL INFORMATION

Aquatic toxicity rating: Acetaminophen: LC50 (fathead minnow) - 814 mg/L - 96 h; EC50 (water flea) - 9.2 mg/L - 48 h. Cyclohexane: LC50 (bluegill) - 34.7 mg/L - 96 h; LC50 (fathead minnow) - 32 - 93 mg/L - 96 h; EC50 (water flea) - 3.78 mg/L - 48 h. Polystyrene: NA

SECTION 13: DISPOSAL CONSIDERATIONS

Consult applicable local, state or national regulations for proper disposal. US EPA does classify unused product as hazardous waste.

SECTION 14: TRANSPORT INFORMATION

IATA: Shipping Name: Cyclohexane UN Number: 1145 Shipping/Hazardous Class: 3 Packing Group: II

Shipping regulations based on combinations of criteria such as Excepted Quantity, Class & packaging according to DOT, IATA and (49) CFR.

SECTION 15: REGULATORY INFORMATION

U.S. TOSCA: Listed Canada: This product has been classified according to the hazard criteria of the CPR and this SDS contains all the information required by the CPR. Acetaminophen is listed as RTK in Pennsylvania & New Jersey. Cyclohexane is listed as RTK in Massachusetts, Pennsylvania & New Jersey.

SECTION 16: OTHER INFORMATION

United States EPA Regulatory Information: NFPA/HMIS Rating: Acetaminophen (TFAC01) Health: 2 Flammability: 0 Reactivity: 0
SARA 313: Cyclohexane Cyclohexane (TFCY01) Health: 1 Flammability: 3 Reactivity: 1
CERCLA RQ: Cyclohexane 1000 lbs Polystyrene (TFPS01) Health: 0 Flammability: 0 Reactivity: 0
SARA 311/312: Acetaminophen - Acute & chronic health hazard (4=Severe, 3=Serious, 2=Moderate, 1=Slight, 0=Minimal)
Cyclohexane - Fire Hazard

NOTE: NA = Data not available, not established, not determined or not pertinent. DISCLAIMER: The information contained herein has been compiled from data presented in various technical sources believed to be accurate. This information is intended to be used only as a guide and does not purport to be complete. ERA/Waters makes no warranties and assumes no liability in connection with the use of this information. It is the user's responsibility to determine the suitability of this information and to assure the adoption of necessary precautions.