SAFETY DATA SHEET
Extraction Solvent

1. IDENTIFICATION

Product Name	Extraction Solvent
Recommended use of the chemical and restrictions on use	
Identified uses	For lysis of mycobacteria
Restrictions on use	For laboratory use
Product Numbers	520165
Company Identification	Covaris, Inc. 14 Gill Street, Unit H Woburn, MA 01801
Customer Information Number	(781) 932-3959
Emergency Telephone Number	(800) 424-9300 (for emergencies only)
Chemtrec Number	(800) 424-9300
Issue Date	April 23, 2015
Supersedes Date	This is the first issue.

Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2. HAZARD IDENTIFICATION

Hazard Classification
Flammable liquids - Category 3
Acute toxicity (oral) - Category 4
Acute toxicity (dermal) - Category 3
Acute toxicity (inhalation) - Category 3
Serious eye damage/eye irritation - Category 1
Skin corrosion/irritation - Category 1B

Label Elements
Hazard Symbols

Signal Word: Danger

Hazard Statements
Flammable liquid and vapour.
Harmful if swallowed.
Toxic in contact with skin.
Toxic if inhaled.
Causes severe skin burns and eye damage.

Precautionary Statements

Prevention
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wash hands thoroughly after handling.
Do not breathe mists, vapor, and spray.
Keep away from heat, sparks, open flame, hot surfaces. - No smoking.
Keep container tightly closed.

2. HAZARD IDENTIFICATION

Prevention
Use explosion-proof equipment.
Wear protective gloves, protective clothing, eye protection and face protection.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Response
Immediately call a poison center or doctor/physician.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before re-use.
In case of fire: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Storage
Store locked up.
Store container in a well-ventilated place.
Keep container tightly closed.
Keep cool.

Disposal
Dispose of contents/container in accordance with local regulation.

Other Hazards
None

Specific Concentration Limits
The values listed below represent the percentages of ingredients of unknown toxicity.

Acute oral toxicity	0 %
Acute dermal toxicity	30 - 40 %
Acute inhalation toxicity	0 %
Acute aquatic toxicity	80 - 90 %

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CAS Number	Concentration
Acetonitrile	75-05-8	45 - 55%
Formic Acid	64-18-6	30 - 40%
Water	7732-18-5	10 - 20%

4. FIRST- AID MEASURES

Description of necessary first-aid measures
Eyes
Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

4. FIRST- AID MEASURES

Skin
Wash affected area with plenty of water. Seek medical attention if symptoms persist.

Ingestion
Do not induce vomiting. Have victim drink 1-3 glasses of water to dilute stomach contents. Never administer anything by mouth if a victim is losing consciousness, is unconscious or is convulsing. Obtain medical attention immediately.

Inhalation
Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention if symptoms persist.

Most important symptoms/effects, acute and delayed
Aside from the information found under description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

Notes to Physicians
Treat symptomatically.

5. FIRE - FIGHTING MEASURES

Suitable (and unsuitable) Extinguishing Media
Use foam, dry chemical or carbon dioxide. Be aware of the possibility of re-ignition. Keep containers and surroundings cool with water spray.

Specific hazards arising from the chemical
Vapors can travel a considerable distance to a source of ignition and flashback.

Special Protective Actions for Fire-Fighters
Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Wear appropriate protective clothing.

Environmental Precautions
Prevent the material from entering drains or watercourses. Notify authorities if spill has entered watercourse or sewer or has contaminated soil or vegetation.

Methods and materials for containment and cleaning up
Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Eliminate all sources of ignition.

7. HANDLING AND STORAGE

Precautions for safe handling
Use in well ventilated area. Use local exhaust ventilation. Avoid inhaling vapor. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use.

7. HANDLING AND STORAGE

Conditions for safe storage
Store between 4° and 20°C. Store away from sources of heat or ignition. Storage area should be: cool - dry - well ventilated - out of direct sunlight - away from sources of ignition (heat, sparks, flames, pilot lights) - away from incompatible materials (see Section 10)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.
Acetonitrile
ACGIH: 20 ppm 8h TWA
OSHA: Z-1 PEL 40 ppm (70 mg/m^3)
Formic Acid
ACGIH: 5 ppm 8h TWA, 10 ppm 15-min STEL
OSHA: Z-1 PEL 5 ppm (9 mg/m^3)

Appropriate engineering controls
No specific measures necessary.

Individual protection measures
Respiratory Protection
Respiratory protection not normally required.
Skin Protection
Chemical resistant gloves
Eye/Face Protection
Chemical goggles or safety glasses with side shields
Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State	Liquid
Color	Clear
Odor	Acidic
Odor Threshold	No data available
pH	3
Specific Gravity	No data available
Boiling Range/Point (°C/F)	No data available
Melting Point (°C/F)	No data available
Flash Point (PMCC) (°C/F)	24°C/75.2°F
Vapor Pressure	No data available
Evaporation Rate (BuAc=1)	No data available
Solubility in Water	Soluble
Vapor Density (Air = 1)	No data available
VOC (g/l)	No data available
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Upper explosive limit	No data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Lower explosive limit	No data available
Flammability (solid, gas)	Not applicable

10. STABILITY AND REACTIVITY

Reactivity
No known reactivity.

Chemical Stability
Stable under normal conditions.

Possibility of hazardous reactions
Hazardous polymerization will not occur.

Conditions to Avoid
Heat – high temperatures

Incompatible Materials
Strong oxidizing agents

Hazardous Decomposition Products
Oxides of carbon - nitrogen oxides - hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Acetonitrile
Oral LD50 (mouse) 617 mg/kg
Dermal LD50 (rabbit) 392 mg/kg, when diluted with water (75% acetonitrile v/v)
Inhalation LC50 >10.0 and ≤ 20.0 mg/l (per ECHA classification of Category 4)
Formic Acid
Oral LD50 (rat) 730 mg/kg
Inhalation LC50 (rat) 7.85 mg/l

Specific Target Organ Toxicity (STOT) – single exposure
Available data indicates this product is not expected to cause target organ effects after a single exposure.

Specific Target Organ Toxicity (STOT) – repeat exposure
Available data indicates this product is not expected to cause target organ effects after repeated exposure.

Serious Eye damage/Irritation
Acetonitrile: Severely irritating to the eyes of rabbits.
Formic Acid: Causes severe eye damage.

Skin Corrosion/Irritation
Formic Acid: Causes severe skin burns.
Acetonitrile: Non-irritating to skin in animal studies.

Respiratory or Skin Sensitization
Acetonitrile: Non-sensitizing to guinea pig skin

11. TOXICOLOGICAL INFORMATION

Carcinogenicity
Not considered carcinogenic by NTP, IARC, and OSHA.

Germ Cell Mutagenicity
Available data indicates this product is not expected to be mutagenic.

Reproductive Toxicity
Available data indicates this product is not expected to cause reproductive toxicity or birth defects.

Aspiration Hazard
Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity
No relevant studies identified.

Mobility in soil
No relevant studies identified.

Persistence/Degradability
No relevant studies identified.

Bioaccumulative Potential
No relevant studies identified.

Other adverse effects
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of in accordance with all applicable local and national regulations.

14. TRANSPORT INFORMATION

Contact supplier for transport information.

15. REGULATORY INFORMATION

United States TSCA Inventory
This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

Canada DSL Inventory
All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

SARA Title III Sect. 311/312 Categorization
Immediate (Acute), Fire Hazard

16. OTHER INFORMATION

Legend
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service
ECHA: European Chemicals Agency
IARC: International Agency for Research on Cancer
NA: Denotes no information found or available
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value

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Replaces: This is first issue.
Changes made: Not applicable

Information Source and References
This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.

Prepared By: EnviroNet LLC.

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