

Safety Data Sheet

LCMS Grade Acetonitrile**SECTION 1: Identification****1.1 Product identifier**

Product name	LCMS Grade Acetonitrile
Product number	17412
Brand	CovaChem
Substance name	Acetonitrile
EC no.	200-835-2
CAS no.	75-05-8
Index no.	608-001-00-3

1.2 Other means of identification

Methyl cyanide

1.3 Recommended use of the chemical and restrictions on use

The intended use is as a mobile phase additive for high performance liquid chromatography (HPLC) and mass spectrometry applications (LCMS). This compound may also be used in organic synthesis and in the manufacture of substances. This compound is usually encountered as an aqueous solution.

***USES:**

This compound is used as a chemical intermediate in the synthesis of acetophenone, 1-naphthaleneacetic acid, thiamine and acetamidine, in pesticide manufacture, as an extractant for animal and vegetable oils, as a pharmaceutical solvent, as a solvent for inorganic salts and in organic synthesis, as a polymer solvent and in acrylic fibers. It is also used for separation of butadiene by extractive distillation, in perfumes, in nitrile rubber, in ABS resins, as a solvent in hydrocarbon extraction processes, as a specialty solvent, as a catalyst, to remove tars, phenols and coloring matter from petroleum hydrocarbons which are not soluble in acetonitrile, to recrystallize steroids, as an indifferent medium in physicochemical investigations, as a medium for promoting reactions involving ionizations and as a solvent in non-aqueous titrations.

***COMMENTS:** Not available**1.4 Supplier's details**

Name	CovaChem, LLC.
Address	6260 East Riverside Blvd Suite 119 Loves Park, IL 61111 United States
Telephone	815-315-1271
Fax	815-315-1272
email	info@covachem.com

1.5 Emergency phone number(s)

PERS Professional Emergency Response Service
Company Code 11814
1-800-633-8253 (U.S. & Canada)
1-801-629-0667 (International)

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SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

- Eye damage/irritation (chapter 3.3), Cat. 2
- Flammable liquids (chapter 2.6), Cat. 2
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3
- Eye damage/irritation (chapter 3.3), Cat. 2A
- Acute toxicity (chapter 3.1), Cat. 4

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H302	Harmful if swallowed
H312	Harmful in contact with skin
H332	Harmful if inhaled

Precautionary statement(s)

P501	Dispose of contents/container in accordance with local regulations.
P405	Store locked up.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P337+P313	If eye irritation persists: Get medical advice/attention.
P312	Call a POISON CENTER/doctor if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash thoroughly after handling.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P243	Take precautionary measures against static discharge.
P242	Use only non-sparking tools.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P240	Ground/bond container and receiving equipment.
P233	Keep container tightly closed.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name	Acetonitrile
EC no.	200-835-2
CAS no.	75-05-8

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Index no.	608-001-00-3
Formula	C ₂ H ₃ N
Molecular weight	41.05
Other names / synonyms	METHYL CYANIDE; METHANECARBONITRILE; ETHYL NITRILE; ETHANENITRILE; CYANOMETHANE; ACETONITRILE
Impurities and stabilizing additives	No additional ingredients present known to the supplier, which are classified as hazardous to health or environment, which would require reporting herein.

Hazardous components

1. ACETONITRILE

Concentration	Not specified
EC no.	200-835-2
CAS no.	75-05-8
Index no.	608-001-00-3

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice

*SKIN CONTACT:

IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water.

If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.

*INHALATION:

IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital.

Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.

*EYE CONTACT:

First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center.

Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician.

IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

*INGESTION:

DO NOT INDUCE VOMITING. Volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems.

If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital.

If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with

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the head lower than the body. **DO NOT INDUCE VOMITING.** IMMEDIATELY transport the victim to a hospital.

*SYMPTOMS:

Symptoms of exposure to this compound may include irritation of the eyes, nose and throat; nausea, vomiting, abdominal pain, weakness, flushing of the face, a feeling of chest tightness, respiratory depression, chest pain, hematemesis, shock, convulsions, unconsciousness and death [102,346]. Other symptoms may include dizziness, headache, drowsiness, a drop in blood pressure and rapid pulse [301]. It can cause fatigue and diarrhea [036]. It can also cause cough, bile-stained emesis, dyspnea and tachypnea [151]. Exposure may also lead to asphyxia, lassitude and stupor [102]. A "cooling sensation" in the lungs and a slight feeling of bronchial tightness have been reported [421].

Other symptoms may include irritation of the skin, difficult breathing, irritability, skin eruptions, confusion, central nervous system depression, slight smarting of the eyes or respiratory system, and smarting and reddening of the skin [371]. It may cause irritation of the mucous membranes and respiratory tract, cyanosis and lachrymation [269]. Exposure may also cause rapid respiration (which becomes slow and gasping), and central nervous system damage [051].

Other symptoms may include reduced pulse rate, pale or ashen gray skin, subnormal temperature, collapse, abnormal liver and kidney function, incoordination, abnormal blood forming system function with anemia, abnormal blood clotting system function with easy bruising or bleeding and gastrointestinal bleeding [058]. Contact with the liquid has been reported to cause slight reversible eye injury [053]. It may also cause eye burns [071]. In severe exposures, it may cause delirium, paralysis and coma [036].

If inhaled

IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.

In case of skin contact

IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.

In case of eye contact

First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

If swallowed

DO NOT INDUCE VOMITING. Volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the

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victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.

4.2 Most important symptoms/effects, acute and delayed

Symptoms of exposure to this compound include irritation of the skin, eyes, nose, throat and respiratory tract, dizziness, nausea, central nervous system depression, dizziness, giddiness and headache. It can cause flushing, decrease in pulse rate, lowered blood pressure, anesthesia, narcosis, mental depression, hallucinations, distorted perceptions, dyspnea, respiratory depression, vomiting, corneal burns, eye damage and coma. It can also cause abdominal pain, hematemesis, areflexia, oliguria followed by diuresis, generalized tenderness, induration and edema of muscles. Prolonged skin contact may cause corrosion. Drunkenness may also occur.

Symptoms of exposure to this compound may include irritation of the eyes, nose and throat; nausea, vomiting, abdominal pain, weakness, flushing of the face, a feeling of chest tightness, respiratory depression, chest pain, hematemesis, shock, convulsions, unconsciousness and death. Other symptoms may include dizziness, headache, drowsiness, a drop in blood pressure and rapid pulse. It can cause fatigue and diarrhea. It can also cause cough, bile-stained emesis, dyspnea and tachypnea. Exposure may also lead to asphyxia, lassitude and stupor. A "cooling sensation" in the lungs and a slight feeling of bronchial tightness have been reported. Other symptoms may include irritation of the skin, difficult breathing, irritability, skin eruptions, confusion, central nervous system depression, slight smarting of the eyes or respiratory system, and smarting and reddening of the skin. It may cause irritation of the mucous membranes and respiratory tract, cyanosis and lachrymation. Exposure may also cause rapid respiration (which becomes slow and gasping), and central nervous system damage. Other symptoms may include reduced pulse rate, pale or ashen gray skin, subnormal temperature, collapse, abnormal liver and kidney function, incoordination, abnormal blood forming system function with anemia, abnormal blood clotting system function with easy bruising or bleeding and gastrointestinal bleeding. Contact with the liquid has been reported to cause slight reversible eye injury. It may also cause eye burns. In severe exposures, it may cause delirium, paralysis and coma.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

When the temperature is above the flash point, flammable in the presence of an ignition source. Keep away from all heat sources, sparks, and open flames.

5.3 Special protective actions for fire-fighters

Wear a self-contained breathing apparatus when appropriate.

Further information

Carbon oxides may form upon combustion.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors. Use in well ventilated area. Use air purifying respirator protection.

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*ACUTE/CHRONIC HAZARDS:

This chemical is toxic by ingestion, inhalation and skin absorption. It is an irritant of the skin, eyes, nose and throat. It is a lachrymator. The vapor is heavier than air and may travel to a source of ignition and flash back. When heated to decomposition it emits highly toxic fumes of carbon monoxide, nitrogen oxides and hydrogen cyanides. It may also release carbon dioxide.

*MINIMUM PROTECTIVE CLOTHING:

If Tyvek-type disposable protective clothing is not worn during

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handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves.

*RECOMMENDED GLOVE MATERIALS:

Permeation Test Results For The Neat (Undiluted) Chemical:

The permeation test results for the neat (undiluted) chemical are given below. The breakthrough times of this chemical are given for each glove type tested. The table is a presentation of actual test results, not specific recommendations or suggestions. Avoid glove types which exhibit breakthrough times of less than the anticipated task time plus an adequate safety factor. If this chemical makes direct contact with your glove, or if a tear, puncture or hole develops, replace them at once.

Glove Type	Model Number	Thickness	Breakthrough Time
Butyl rubber	North B-174	0.71 mm	480 min
Latex	Ackwell 5-109	0.13 mm	0 min
Neoprene	Edmont 29-870	0.64 mm	55 min
PVA	Edmont 25-545	0.33 mm	480 min

*RECOMMENDED RESPIRATOR:

When working with this chemical, wear a NIOSH-approved full face positive pressure supplied-air respirator or a self-contained breathing apparatus (SCBA).

*OTHER: Not available

*STORAGE PRECAUTIONS:

You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION.

*SPILLS AND LEAKAGE:

If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

*DISPOSAL AND WASTE TREATMENT: Not available

6.2 Environmental precautions

Prevent environmental release. Do not pour down drain or allow to enter waterways or sewers. Prevent further spillage of material when possible.

6.3 Methods and materials for containment and cleaning up

If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

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Reference to other sections

For disposal information refer to section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid breathing vapors. Wear respiratory protection.

Avoid contact with skin and eyes.

Container may explode under fire conditions. Keep away from ignition sources including sparks, fire, and static electricity.

7.2 Conditions for safe storage, including any incompatibilities

Store container upright, in a well ventilated, dry location.

Recommended Storage Temperature: Room Temp (+15 - 25 °C)

Specific end use(s)

For laboratory use only. Intended for use as a research laboratory chemical or in the manufacturing of substances.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Acetonitrile (CAS: 75-05-8)

REL (Inhalation): 20 ppm (NIOSH)

OSHA Annotated Table Z-1, www.osha.gov

2. Acetonitrile (CAS: 75-05-8)

PEL (Inhalation): 40 ppm, (ST) 60 ppm (Cal/OSHA)

OSHA Annotated Table Z-1, www.osha.gov

3. Acetonitrile (CAS: 75-05-8)

PEL (Inhalation): 70 mg/m³ (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

4. Acetonitrile (CAS: 75-05-8)

PEL (Inhalation): 40 ppm (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls

Use product in a well ventilated location, such as in a fume hood.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



Eye/face protection

Use a face shield (minimum 8 inches) and government tested and approved safety goggles, such as NIOSH (US) or EN 166 (EU).

Skin protection

*MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. *RECOMMENDED GLOVE MATERIALS: Permeation Test Results For The Neat (Undiluted) Chemical: The permeation test results for the neat (undiluted) chemical are given below. The breakthrough times of this chemical are given for each glove type tested. The table

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is a presentation of actual test results, not specific recommendations or suggestions. Avoid glove types which exhibit breakthrough times of less than the anticipated task time plus an adequate safety factor. If this chemical makes direct contact with your glove, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Breakthrough Time Butyl rubber North B-174 0.71 mm 480 min Latex Ackwell 5-109 0.13 mm 0 min Neoprene Edmont 29-870 0.64 mm 55 min PVA Edmont 25-545 0.33 mm 480 min

Body protection

Complete chemical protective suit is recommended. The personal protective equipment should be selected based upon the concentration and amount of chemical at work station.

Respiratory protection

*RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators.

*RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face positive pressure supplied-air respirator or a self-contained breathing apparatus (SCBA).

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Liquid
Odor	Alcohol like odor
Odor threshold	Data unavailable
pH	Data unavailable
Melting point/freezing point	-45 C
Initial boiling point and boiling range	81.6
Flash point	2 C
Evaporation rate	Evaporation rate (butyl acetate = 1): 5.8
Flammability (solid, gas)	Data unavailable
Upper/lower flammability limits	Upper explosion Limit: 12.7 % V
Upper/lower explosive limits	Lower explosion Limit: 2 % V
Vapor pressure	43.2 hPa (32.4 mm Hg) at 20 C
Vapor density	Data unavailable
Relative density	0.7868 @ 20/20 C
Solubility(ies)	completely soluble
Partition coefficient: n-octanol/water	log P octanol: 0.05
Auto-ignition temperature	524 C
Decomposition temperature	Data unavailable
Viscosity	Data unavailable
Explosive properties	Data unavailable
Oxidizing properties	Data unavailable

SECTION 10: Stability and reactivity

10.1 Reactivity

Data unavailable

10.2 Chemical stability

The chemical is stable under normal storage conditions.

10.3 Possibility of hazardous reactions

Data unavailable

10.4 Conditions to avoid

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Avoid excessive heat exposure and proximity to sparks or open flames.

10.5 Incompatible materials

Oxidizing agents, Acid anhydrides, Aluminum, Halogenated compounds

10.6 Hazardous decomposition products

Carbon oxides may form under fire conditions.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Oral: 6,690 mg/kg (Rat)
LC50 Inhalation: 27 ppm for 4 h (Rat)
LC50 Dermal: 2,000 mg/kg (Rabbit)

Skin corrosion/irritation

Skin: No Skin irritation detected (rabbit)

Serious eye damage/irritation

Eye: Eye irritation detected (rabbit)

Respiratory or skin sensitization

Guinea Pig: Does not appear to cause respiratory irritation

Germ cell mutagenicity

Data unavailable

Carcinogenicity

Contains a component of which its carcinogenicity based on its IARC, ACGIH, EPA, and NTP classification is not classifiable

Reproductive toxicity

Data unavailable

STOT-single exposure

Data unavailable

STOT-repeated exposure

Data unavailable

Aspiration hazard

Data unavailable

SECTION 12: Ecological information

Toxicity

Toxicity to Fish: LC50, 1.640 mg/L at 96 h (Pimephales promelas, ie. Flathead minnow)
Toxicity to Daphnia: EC50, 3,600 mg/L at 48 h (Daphnia magna, ie. Water flea)

Persistence and degradability

Data unavailable

Bioaccumulative potential

Data unavailable

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Mobility in soil

Data unavailable

Results of PBT and vPvB assessment

Data unavailable

Other adverse effects

This chemical may cause environmental hazards. Do not allow material to enter the drain, sewer, or water ways.

SECTION 13: Disposal considerations

Disposal of the product

Generation of waste should be kept to a minimum when possible. Any waste generated should be recycled when possible. Please dispose any unused or used materials in accordance with applicable national, regional and local laws and regulations.

*DISPOSAL AND WASTE TREATMENT: Not available

Disposal of contaminated packaging

Dispose in the same way as unused product.

Waste treatment

This product should be disposed of by a licensed waste management professional. Disposal through incineration with afterburner scrubbing is recommended.

Sewage disposal

Product should not enter the sewer.

SECTION 14: Transport information

DOT (US)

UN Number: 1648

Class: 3

Packing Group: II

Proper Shipping Name: Acetonitrile

Reportable quantity (RQ): 5,000 lbs

Poison inhalation hazard: No

IMDG

UN Number: 1648

Class: 3

Packing Group: II

EMS Number: F-E, S-D

Proper Shipping Name: ACETONITRILE

IATA

UN Number: 1648

Class: 3

Packing Group: II

Proper Shipping Name: Acetonitrile

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

SARA 302 Components

No component in this product is subject to the reporting requirements of SARA, Title III, Section 302

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SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard

SARA 313 Components

No component in this product is subject to the reporting requirements of SARA, Title III, Section 313

Pennsylvania Right To Know Components

Chemical name: Acetonitrile

CAS number: 75-05-8

New Jersey Right To Know Components

Common name: ACETONITRILE

CAS number: 75-05-8

Massachusetts Right To Know Components

Chemical name: Acetonitrile

CAS number: 75-05-8

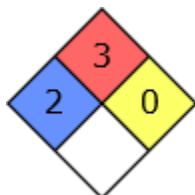
California Prop. 65 Components

This material does not contain any chemicals known to the state of California to cause reproductive harm or birth defects.

HMIS Rating

Acetonitrile	
HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

NFPA Rating



SECTION 16: Other information

The information represented in this Safety Data Sheet is believed to be correct and is based on the current state of our knowledge. This document or any other document does not represent or suggest any type of warranty or guarantee of the product properties or characteristics of this material. CovaChem, LLC and its affiliates shall not be held liable for any damages that result from contact with the above product or handling this product or any others.