SAFETY DATA SHEET

1. Identification

Product identifier: CHEMSAFE RAM-TACK SPRAY ADHESIVE - 57002

Other means of identification
SDS number: RE1000035655

Recommended restrictions
Product Use: Adhesive
Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name:	Aramsco, Inc
Address:	1480 Grandview Ave Paulsboro,NJ 08066
Telephone:	856-686-7801
Fax:	

Emergency telephone number: 1-866-836-8855

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable aerosol	Category 1

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Skin sensitizer	Category 1
Specific Target Organ Toxicity - Single Exposure	Category 3[1.]
Aspiration Hazard	Category 1

Target Organs

1. Narcotic effect.

Environmental Hazards

Acute hazards to the aquatic environment	Category 3
Chronic hazards to the aquatic environment	Category 3

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement: Extremely flammable aerosol.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.
Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: 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. IF ON SKIN: Wash with plenty of water If skin irritation or rash occurs: Get medical advice/attention. IF SWALLOWED: Immediately call a POISON CENTER/doctor Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Wash contaminated clothing before reuse.

Storage: Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Propane	74-98-6	20 - <50%
2-Propanone	67-64-1	20 - <50%
Butane	106-97-8	10 - <20%
Heptane, branched, cyclic and linear	426260-76-6	5 - <10%
Heptane	142-82-5	5 - <10%
Naphtha (petroleum), hydrotreated light	64742-49-0	5 - <10%
Solvent naphtha (petroleum), light aliph.	64742-89-8	5 - <10%
Acetic acid, methyl ester	79-20-9	1 - <5%
Maleic Anhydride Modified Liquid Polyisoprene	841251-34-1	1 - <5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a physician or poison control center immediately. Rinse mouth. Never give liquid to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation: Move to fresh air.

Skin Contact: Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling: Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid contact with skin. Avoid contact with eyes, skin, and clothing.

Conditions for safe storage, including any incompatibilities: Store locked up. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Aerosol Level 2

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Propane	REL	1,000 ppm 1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	1,000 ppm 1,800 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	1,000 ppm 1,800 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
2-Propanone	STEL	1,000 ppm 2,400 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	PEL	1,000 ppm 2,400 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	250 ppm	US. ACGIH Threshold Limit Values (03 2015)
	TWA	750 ppm 1,800 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	500 ppm	US. ACGIH Threshold Limit Values (03 2015)
	REL	250 ppm 590 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Butane	REL	800 ppm 1,900 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	STEL	1,000 ppm	US. ACGIH Threshold Limit Values (03 2018)
	TWA	800 ppm 1,900 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Naphtha (petroleum), hydrotreated light	PEL	100 ppm 400 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016)
	REL	100 ppm 400 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	TWA	100 ppm 400 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Solvent naphtha (petroleum), light aliph.	REL	100 ppm 400 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	TWA	100 ppm 400 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	PEL	100 ppm 400 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016)
Heptane	TWA	400 ppm 1,600 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	REL	85 ppm 350 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	500 ppm 2,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	500 ppm 2,000 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	400 ppm	US. ACGIH Threshold Limit Values (02 2012)
	STEL	500 ppm	US. ACGIH Threshold Limit Values (02 2012)
	Ceil_Time	440 ppm 1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Acetic acid, methyl ester	REL	200 ppm 610 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	STEL	250 ppm 760 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	200 ppm 610 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	250 ppm	US. ACGIH Threshold Limit Values (2008)
	TWA	200 ppm 610 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	250 ppm 760 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	200 ppm	US. ACGIH Threshold Limit Values (2008)
Methanol	REL	200 ppm 260 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	200 ppm 260 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	200 ppm 260 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	250 ppm 325 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	200 ppm	US. ACGIH Threshold Limit Values (2008)

	STEL	250 ppm		US. ACGIH Threshold Limit Values (2008)
	STEL	250 ppm	325 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Benzene, ethyl-	STEL	125 ppm	545 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	REL	100 ppm	435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	100 ppm	435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	125 ppm	545 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	100 ppm	435 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	20 ppm		US. ACGIH Threshold Limit Values (12 2010)
Benzene, methyl-	STEL	150 ppm	560 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	REL	100 ppm	375 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	100 ppm	375 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	Ceiling	300 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	TWA	20 ppm		US. ACGIH Threshold Limit Values (2008)
	TWA	200 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	500 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	STEL	150 ppm	560 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Benzene	REL	0.1 ppm		US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	1 ppm		US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	Ceiling	25 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	TWA	0.5 ppm		US. ACGIH Threshold Limit Values (2008)
	STEL	2.5 ppm		US. ACGIH Threshold Limit Values (2008)
	STEL	5 ppm		US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	OSHA_ACT	0.5 ppm		US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	TWA	10 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	50 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	STEL	5 ppm		US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	1 ppm		US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	STEL	1 ppm		US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Benzene, (1-methylethyl)-	REL	50 ppm	245 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	50 ppm		US. ACGIH Threshold Limit Values (2008)
	PEL	50 ppm	245 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	50 ppm	245 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	1 ppm		US. ACGIH Notice of Intended Changes (NIC) to Threshold Limit Values (03 2018)
Hexane	TWA	50 ppm	180 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	PEL	500 ppm	1,800 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	REL	50 ppm	180 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	50 ppm		US. ACGIH Threshold Limit Values (2008)
Cyclohexane	TWA	100 ppm		US. ACGIH Threshold Limit Values (2008)
	TWA	300 ppm	1,050 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	REL	300 ppm	1,050 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	300 ppm	1,050 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Phenol	TWA	5 ppm		US. ACGIH Threshold Limit Values (2008)
	REL	5 ppm	19 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	Ceil_Time	15.6 ppm	60 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	5 ppm	19 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	5 ppm	19 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Benzene, ethenyl-	REL	50 ppm	215 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	50 ppm	215 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	20 ppm		US. ACGIH Threshold Limit Values (2008)
	STEL	100 ppm	425 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	40 ppm		US. ACGIH Threshold Limit Values (2008)
	STEL	100 ppm	425 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	100 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	Ceiling	200 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	600 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	TWA	2 ppm		US. ACGIH Notice of Intended Changes (NIC) to Threshold Limit Values (03 2018)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
2-Propanone (acetone: Sampling time: End of shift.)	25 mg/l (Urine)	ACGIH BEL (03 2015)
Methanol (methanol: Sampling time: End of shift.)	15 mg/l (Urine)	ACGIH BEL (03 2013)

Benzene, ethyl- (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEL (02 2014)
Benzene, methyl- (toluene: Sampling time: End of shift.)	0.03 mg/l (Urine)	ACGIH BEL (03 2013)
Benzene, methyl- (o-Cresol, with hydrolysis: Sampling time: End of shift.)	0.3 mg/g (Creatinine in urine)	ACGIH BEL (03 2013)
Benzene, methyl- (toluene: Sampling time: Prior to last shift of work week.)	0.02 mg/l (Blood)	ACGIH BEL (03 2013)
Benzene (S-Phenylmercapturic acid: Sampling time: End of shift.)	25 µg/g (Creatinine in urine)	ACGIH BEL (03 2013)
Benzene (t,t-Muconic acid: Sampling time: End of shift.)	500 µg/g (Creatinine in urine)	ACGIH BEL (03 2013)
Hexane (2,5-Hexanedion, without hydrolysis: Sampling time: End of shift.)	0.5 mg/l (Urine)	ACGIH BEL (03 2018)
Phenol (Phenol with hydrolysis: Sampling time: End of shift.)	250 mg/g (Creatinine in urine)	ACGIH BEL (03 2013)
Benzene, ethenyl- (styrene: Sampling time: End of shift.)	40 µg/l (Urine)	ACGIH BEL (03 2015)
Benzene, ethenyl- (Mandelic acid plus phenylglyoxylic acid: Sampling time: End of shift.)	400 mg/g (Creatinine in urine)	ACGIH BEL (03 2013)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: No data available.

Other: Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Observe good industrial hygiene practices. Avoid contact with eyes. When using do not smoke. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: Spray Aerosol
Color: No data available.
Odor: No data available.
Odor threshold: No data available.
pH: No data available.
Melting point/freezing point: No data available.
Initial boiling point and boiling range: No data available.
Flash Point: Estimated -104.44 °C
Evaporation rate: No data available.
Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):	Estimated 9.5 %(V)
Flammability limit - lower (%):	Estimated 1.9 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	4,481 - 5,860 hPa (20 °C)
Vapor density:	No data available.
Density:	No data available.
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	7 - 200 mm2/s

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: No data available.

Conditions to avoid: Avoid heat or contamination.

Incompatible Materials: No data available.

Hazardous Decomposition Products: No data available.

11. Toxicological information

Information on likely routes of exposure

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

2-Propanone	LD 50 (Rat): 5,800 mg/kg
Heptane, branched, cyclic and linear	LD 50: > 2,000 mg/kg
Heptane	LD 50 (Rat): > 5,000 mg/kg
Naphtha (petroleum), hydrotreated light	LD 50 (Rat): > 5,000 mg/kg
Solvent naphtha (petroleum), light aliph.	LD 50 (Rat): > 5,000 mg/kg
Acetic acid, methyl ester	LD 50 (Rat): 6,482 mg/kg
Maleic Anhydride Modified Liquid Polyisoprene	LD 50: > 5,000 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

2-Propanone	LD 50 (Rabbit): > 7,426 mg/kg
Heptane, branched, cyclic and linear	LD 50: > 2,000 mg/kg
Heptane	LD 50 (Rabbit): > 2,000 mg/kg
Naphtha (petroleum), hydrotreated light	LD 50 (Rabbit): > 3,750 mg/kg
Solvent naphtha (petroleum), light aliph.	LD 50 (Rabbit): > 3,000 mg/kg
Acetic acid, methyl ester	LD 50 (Rat): > 2,000 mg/kg
Maleic Anhydride Modified Liquid Polyisoprene	LD 50: > 5,000 mg/kg

Inhalation

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Propane	LC 50: > 100 mg/l LC 50: > 100 mg/l
2-Propanone	LC 50 (Rat): 50.1 mg/l LC 50: > 5 mg/l
Butane	LC 50: > 100 mg/l LC 50: > 100 mg/l
Heptane, branched, cyclic and linear	LC 50: > 20 mg/l LC 50: > 5 mg/l
Heptane	LC 50 (Rat): > 29.29 mg/l LC 50: > 100 mg/l

Naphtha (petroleum), hydrotreated light	LOAEL (Human): 2,400 mg/m3 LC 50 (Rat): > 7,630 mg/m3 LC 50: > 5 mg/l
Solvent naphtha (petroleum), light aliph.	LC 50: > 100 mg/l LC 50: > 100 mg/l
Acetic acid, methyl ester	LC 50: > 49.2 mg/l LC 50: > 5 mg/l
Maleic Anhydride Modified Liquid Polyisoprene	LC 50: > 100 mg/l LC 50: > 100 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s):

Propane	NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study
2-Propanone	NOAEL (Rat(Male), Oral, 13 Weeks): 10,000 ppm(m) Oral Experimental result, Key study
Butane	LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study
Heptane	NOAEL (Rat(Male), Inhalation): 12,470 mg/m3 Inhalation Experimental result, Key study
Naphtha (petroleum), hydrotreated light	LOAEL (Rat(Female, Male), Oral, 13 Weeks): 1,250 mg/kg Oral Read-across based on grouping of substances (category approach), Key study NOAEL (Rat(Female, Male), Dermal, 28 d): > 375 mg/kg Dermal Experimental result, Supporting study NOAEL (Rat(Female, Male), Inhalation): 10,000 mg/m3 Inhalation Experimental result, Key study
Solvent naphtha (petroleum), light aliph.	NOAEL (Mouse, Rat(Female, Male), Inhalation, 107 - 113 Weeks): 1,402 mg/m3 Inhalation Experimental result, Key study NOAEL (Rat(Female, Male), Dermal, 5 - 28 d): 3,750 mg/kg Dermal Experimental result, Key study NOAEL (Rat(Female, Male), Dermal, 28 d): > 375 mg/kg Dermal Experimental result, Supporting study
Acetic acid, methyl ester	NOAEL (Rat(Female, Male), Inhalation, 28 d): 350 ppm(m) Inhalation Experimental result, Key study LOAEL (Rat(Female, Male), Inhalation, 28 d): 2,000 ppm(m) Inhalation Experimental result, Key study

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

2-Propanone	in vivo (Rabbit): Not irritant Experimental result, Supporting study
Heptane	in vivo (Rabbit): Irritating Read-across based on grouping of substances (category approach), Key study
Acetic acid, methyl ester	in vivo (Rabbit): Not irritant Experimental result, Key study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

2-Propanone	Irritating. Rabbit, 24 hrs: Minimum grade of severe eye irritant
Heptane	Rabbit, 24 - 72 hrs: Not irritating
Naphtha (petroleum), hydrotreated light	Rabbit, 24 - 72 hrs: Not irritating
Solvent naphtha (petroleum), light aliph.	Rabbit: Not irritating
Acetic acid, methyl ester	Rabbit: Irritating

Respiratory or Skin Sensitization

Product: No data available.

Specified substance(s):

2-Propanone	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Heptane	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Naphtha (petroleum), hydrotreated light	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Solvent naphtha (petroleum), light aliph.	Skin sensitization:, in vivo (Guinea pig): Non sensitising

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s):

2-Propanone	Inhalation - vapor: Narcotic effect. - Category 3 with narcotic effects.
Heptane	Narcotic effect. - Category 3 with narcotic effects.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Target Organs

Specific Target Organ Toxicity - Single Exposure: Narcotic effect.

Aspiration Hazard

Product: No data available.

Specified substance(s):

Heptane, branched, cyclic and linear	May be fatal if swallowed and enters airways.
Heptane	May be fatal if swallowed and enters airways.
Naphtha (petroleum), hydrotreated light	May be fatal if swallowed and enters airways.
Solvent naphtha (petroleum), light aliph.	May be fatal if swallowed and enters airways.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Propane	LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
2-Propanone	LC 50 (Oncorhynchus mykiss, 96 h): 5,540 mg/l Experimental result, Key study
Butane	LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
Heptane	LC 50 (Mozambique tilapia (Tilapia mossambica), 96 h): 375 mg/l Mortality
Naphtha (petroleum), hydrotreated light	LC 50 (96 h): 8.41 mg/l Experimental result, Key study
Acetic acid, methyl ester	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 295 - 348 mg/l Mortality LC 50 (Danio rerio, 48 h): 250 - 350 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

2-Propanone	LC 50 (Daphnia pulex, 48 h): 8,800 mg/l Experimental result, Key study
Butane	LC 50 (Daphnia sp., 48 h): 69.43 mg/l QSAR QSAR, Key study
Heptane	EC 50 (Daphnia magna, 48 h): 1.5 mg/l Experimental result, Key study
Naphtha (petroleum), hydrotreated light	EC 50 (Daphnia magna, 48 h): 4.5 mg/l Experimental result, Key study
Solvent naphtha (petroleum), light aliph.	EC 50 (Daphnia magna, 48 h): 32 mg/l Experimental result, Supporting study
Acetic acid, methyl ester	EC 50 (Daphnia magna, 48 h): 1,026.7 mg/l Experimental result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Heptane	NOAEL (Oncorhynchus mykiss): 1.284 mg/l QSAR QSAR, Key study
Naphtha (petroleum), hydrotreated light	EC 50 (Daphnia magna): 10 mg/l Other, Key study NOAEL (Daphnia magna): 2.6 mg/l Other, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

2-Propanone	LOAEL (Daphnia magna): 2,212 mg/l Experimental result, Key study NOAEL (Daphnia magna): 2,212 mg/l Experimental result, Key study
Heptane, branched, cyclic and linear	NOEC : < 1 mg/l estimation
Heptane	NOAEL (Daphnia magna): 0.17 mg/l Read-across based on grouping of substances (category approach), Key study EC 50 (Daphnia magna): 0.23 mg/l Read-across based on grouping of substances (category approach), Key study
Naphtha (petroleum), hydrotreated light Solvent naphtha (petroleum), light aliph.	EC 50 (Daphnia magna): 10 mg/l Experimental result, Key study NOAEL (Daphnia magna): 2.6 mg/l Experimental result, Key study EC 50 (Daphnia magna): > 40 mg/l Experimental result, Key study

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

Propane	100 % (385.5 h) Detected in water. Experimental result, Key study 50 % (3.19 d) Detected in water. QSAR, Weight of Evidence study
2-Propanone	90.9 % (28 d) Detected in water. Experimental result, Key study
Butane	100 % (385.5 h) Detected in water. Experimental result, Key study
Heptane	70 % Detected in water. Experimental result, Key study
Naphtha (petroleum), hydrotreated light	90.35 % (28 d) Detected in water. Experimental result, Supporting study
Solvent naphtha (petroleum), light aliph.	90.35 % (28 d) Detected in water. Experimental result, Supporting study
Acetic acid, methyl ester	70 % Detected in water. Experimental result, Key study

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

2-Propanone	Haddock, adult, Bioconcentration Factor (BCF): 0.69 Aquatic sediment Experimental result, Not specified

Heptane	Bioconcentration Factor (BCF): 552 Aquatic sediment Estimated by calculation, Key study
Naphtha (petroleum), hydrotreated light	Bioconcentration Factor (BCF): 10 - 2,500 Aquatic sediment Estimated by calculation, Key study
Solvent naphtha (petroleum), light aliph.	Bioconcentration Factor (BCF): 10 - 2,500 Aquatic sediment Estimated by calculation, Key study

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	Log Kow: > 2.4 - < 5.7 23 °C Yes Experimental result, Key study Log Kow: 2.2 - 5.2 23 °C Yes Experimental result, Key study Log Kow: 2.2 - 6.1 23 °C Yes Experimental result, Key study

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Propane	No data available.
2-Propanone	No data available.
Butane	No data available.
Heptane, branched, cyclic and linear	No data available.
Heptane	No data available.
Naphtha (petroleum), hydrotreated light	No data available.
Solvent naphtha (petroleum), light aliph.	No data available.
Acetic acid, methyl ester	No data available.
Maleic Anhydride Modified Liquid Polyisoprene	No data available.

Other adverse effects: Harmful to aquatic life with long lasting effects.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: No data available.

14. Transport information

DOT

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es)	
Class:	2.1
Label(s):	–
Packing Group:	II
Marine Pollutant:	No
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IMDG

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es)	
Class:	2
Label(s):	–
EmS No.:	
Packing Group:	–
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IATA

UN Number:	UN 1950
Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es):	
Class:	2.1
Label(s):	–
Packing Group:	–
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

15. Regulatory information

US Federal Regulations

Restrictions on use: Not known.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity	OSHA hazard(s)
Benzene	Flammability
	Cancer
	Aspiration
	Eye
	Blood
	Skin
	respiratory tract irritation
	Central nervous system

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Propane	lbs. 100
2-Propanone	lbs. 5000
Butane	lbs. 100
Heptane	lbs. 100
Acetic acid, methyl ester	lbs. 100
Methanol	lbs. 5000
Benzene, ethyl-	lbs. 1000
Benzene, methyl-	lbs. 1000
Benzene	lbs. 10
Benzene, (1-methylethyl)-	lbs. 5000
Hexane	lbs. 5000
Cyclohexane	lbs. 1000
Phenol	lbs. 1000
Benzene, ethenyl-	lbs. 1000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Flammable aerosol
Skin Corrosion/Irritation
Serious Eye Damage/Eye Irritation
Skin sensitizer
Specific Target Organ Toxicity - Single Exposure
Aspiration Hazard

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
2-Propanone		
Acetic acid, methyl ester		
Hexane		
Phenol	lbs. 1000	- -- -

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Propane	lbs. 100
2-Propanone	lbs. 5000
Butane	lbs. 100
Heptane	lbs. 100
Acetic acid, methyl ester	lbs. 100
Methanol	lbs. 5000
Benzene, ethyl-	lbs. 1000
Benzene, methyl-	lbs. 1000
Benzene	lbs. 10
Benzene, (1-methylethyl)-	lbs. 5000
Hexane	lbs. 5000
Cyclohexane	lbs. 1000
Phenol	lbs. 1000
Benzene, ethenyl-	lbs. 1000

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Phenol	lbs
Propane	10000 lbs
2-Propanone	10000 lbs
Butane	10000 lbs
Heptane, branched, cyclic and linear	10000 lbs
Heptane	10000 lbs
Naphtha (petroleum), hydrotreated light	10000 lbs
Solvent naphtha (petroleum), light aliph.	10000 lbs
Acetic acid, methyl ester	10000 lbs
Maleic Anhydride Modified Liquid Polyisoprene	10000 lbs
Methanol	10000 lbs
Benzene, ethyl-	10000 lbs
Benzene, methyl-	10000 lbs
Benzene	10000 lbs
Benzene, (1-methylethyl)-	10000 lbs
Hexane	10000 lbs
Cyclohexane	10000 lbs
Benzene, ethenyl-	10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Methanol	Developmental toxin. 03 2012
Benzene, ethyl-	Carcinogenic. 05 2011
Benzene, methyl-	Developmental toxin. 03 2008
Benzene	Developmental toxin. 03 2008
Benzene	Carcinogenic. 05 2011
Benzene	Male reproductive toxin. 03 2008
Benzene, (1-methylethyl)-	Carcinogenic. 05 2011
Hexane	Male reproductive toxin. 12 2017
Benzene, ethenyl-	Carcinogenic. 04 2016

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

Propane
2-Propanone
Butane
Naphtha (petroleum), hydrotreated light
Solvent naphtha (petroleum), light aliph.
Heptane
Acetic acid, methyl ester

US. Massachusetts RTK - Substance List

Chemical Identity

Benzene
Phenol

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Propane
2-Propanone
Butane
Naphtha (petroleum), hydrotreated light
Solvent naphtha (petroleum), light aliph.
Heptane
Acetic acid, methyl ester

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

International regulations

Montreal protocol

2-Propanone
Acetic acid, methyl ester

Stockholm convention

2-Propanone
Acetic acid, methyl ester

Rotterdam convention

2-Propanone
Acetic acid, methyl ester

Kyoto protocol

Inventory Status:

Australia AICS:	Not in compliance with the inventory.
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	Not in compliance with the inventory.
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	Not in compliance with the inventory.
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.
Mexico INSQ:	Not in compliance with the inventory.
Ontario Inventory:	Not in compliance with the inventory.
Taiwan Chemical Substance Inventory:	Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

Issue Date:	03/17/2020
Revision Information:	No data available.
Version #:	1.0
Further Information:	No data available.
Disclaimer:	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.