Conforms to US OSHA Hazard Communication 29CFR1910.1200

SAFETY DATA SHEET

Agilent Technologies

HPLC Flushing Solvent, Part Number G1969-85026

Section 1. Identification

1.1 Product identifier

Product name : HPLC Flushing Solvent, Part Number G1969-85026

Part No. : G1969-85026

Validation date : 3/28/2014.

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

Material uses : Analytical chemistry.
500 ml

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
Logistics Center - Americas
500 Ships Landing Way
New Castle, Delaware 19720
800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

H225	FLAMMABLE LIQUIDS - Category 2
H315	SKIN CORROSION/IRRITATION - Category 2
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
H351	CARCINOGENICITY - Category 2
H335 and H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

2.2 GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H225 - Highly flammable liquid and vapor.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H351 - Suspected of causing cancer.
H335 - May cause respiratory irritation.
H336 - May cause drowsiness and dizziness.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Section 2. Hazards identification

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P281 - Use personal protective equipment as required.
P280 - Wear protective gloves. Wear eye or face protection.
P210 - Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P233 - Keep container tightly closed.
P271 - Use only outdoors or in a well-ventilated area.
P260 - Do not breathe vapor.
P264 - Wash hands thoroughly after handling.

Response : P314 - Get medical attention if you feel unwell.
P308 + P313 - IF exposed or concerned: Get medical attention.
P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P302 + P352 + P362-2 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing.
P332 + P313 - If skin irritation occurs: Get medical attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.

Storage : P405 - Store locked up.
P403 - Store in a well-ventilated place.
P235 - Keep cool.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Avoid contact with skin and clothing. Wash thoroughly after handling.

2.3 Other hazards

Hazards not otherwise classified : Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Propan-2-ol	30 - 60	67-63-0
Acetonitrile	10 - 30	75-05-8
Dichloromethane	10 - 30	75-09-2
Cyclohexane	10 - 30	110-82-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes skin irritation. Defatting to the skin.

Ingestion : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Section 4. First aid measures

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds
carbonyl halidescyanides

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations : Industrial applications, Professional applications.

Industrial sector specific solutions : Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Propan-2-ol	**ACGIH TLV (United States, 6/2013).** STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours. **NIOSH REL (United States, 10/2013).** STEL: 1225 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 980 mg/m³ 10 hours. TWA: 400 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 980 mg/m³ 8 hours. TWA: 400 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 1225 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 980 mg/m³ 8 hours. TWA: 400 ppm 8 hours.
Acetonitrile	**ACGIH TLV (United States, 6/2013).** **Absorbed through skin.** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 34 mg/m³ 10 hours. TWA: 20 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 70 mg/m³ 8 hours. TWA: 40 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 105 mg/m³ 15 minutes. STEL: 60 ppm 15 minutes. TWA: 70 mg/m³ 8 hours. TWA: 40 ppm 8 hours.
Dichloromethane	**ACGIH TLV (United States, 6/2013).** TWA: 174 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 125 ppm 15 minutes. TWA: 25 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** STEL: 125 ppm 15 minutes. TWA: 25 ppm 8 hours.
Cyclohexane	**ACGIH TLV (United States, 6/2013).** TWA: 100 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 1050 mg/m³ 10 hours. TWA: 300 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1050 mg/m³ 8 hours. TWA: 300 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1050 mg/m³ 8 hours. TWA: 300 ppm 8 hours.

Section 8. Exposure controls/personal protection

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Color : Clear. Colorless.

Odor : Rubbing alcohol odor.

Odor threshold : Not available.

pH : Not available.

Melting point : -88.5°C (-127.3°F)

Boiling point : 82.4°C (180.3°F)

Section 9. Physical and chemical properties

Flash point : Closed cup: -18 to 23°C (-0.4 to 73.4°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not applicable.

Lower and upper explosive (flammable) limits : Lower: 2%
Upper: 13%

Vapor pressure : 4.4 kPa (33 mm Hg) [room temperature]

Vapor density : 2.07 [Air = 1]

Relative density : Not available.

Solubility : Soluble in the following materials: cold water and hot water.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : 456°C (852.8°F)

Decomposition temperature : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

10.5 Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials
Other: reducing materials, combustible materials, metals, acids, alkalis and moisture.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Propan-2-ol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Acetonitrile	LC50 Inhalation Vapor	Rat	17100 ppm	4 hours
	LD50 Dermal	Rabbit	980 mg/kg	-
	LD50 Oral	Rat	2460 mg/kg	-
Dichloromethane	LC50 Inhalation Gas.	Rat	18332 ppm	4 hours
	LC50 Inhalation Vapor	Rat	76000 mg/m³	4 hours
	LD50 Oral	Rat	985 mg/kg	-
Cyclohexane	LD50 Oral	Rat	6240 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Propan-2-ol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Acetonitrile	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Dichloromethane	Eyes - Moderate irritant	Rabbit	-	162 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Propan-2-ol	-	3	-
Dichloromethane	+	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Propan-2-ol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Dichloromethane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Cyclohexane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Propan-2-ol	Category 2	Not determined	gastrointestinal tract and liver
Acetonitrile	Category 2	Not determined	blood system, central nervous system (CNS), kidneys and liver
Dichloromethane	Category 2	Not determined	blood system and liver

Aspiration hazard

Name	Result
Cyclohexane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes skin irritation. Defatting to the skin.

Ingestion : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Section 11. Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	2864.3 mg/kg
Dermal	4188 mg/kg
Inhalation (gases)	116025.3 ppm

Other information : Adverse symptoms may include the following: carboxyhemoglobinemia, nausea or vomiting.

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Propan-2-ol	Acute LC50 1400000 to 1950000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 1400000 µg/l	Fish - Gambusia affinis	96 hours
Acetonitrile	Acute IC50 3685000 µg/l Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 3600000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 100 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 1000000 µg/l Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 160000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Dichloromethane	Acute EC50 242 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute EC50 500000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 1682000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 329 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 193000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 56000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
Cyclohexane	Acute LC50 8300 µg/l Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours

Section 12. Ecological information

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Cyclohexane	-	6 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetonitrile	-	-	Readily
Cyclohexane	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Propan-2-ol	0.05	-	low
Acetonitrile	-0.34	-	low
Dichloromethane	1.25	22.91	low
Cyclohexane	3.44	167	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

12.5 Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Additional information : **Special provisions**
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Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT	UN1993	Flammable liquids, n. o.s. (Propan-2-ol, Acetonitrile). Marine pollutant (Acetonitrile) RQ (Dichloromethane, Cyclohexane)	3	II		The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes. **Reportable quantity** 6329.1 lbs / 2873.4 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements. **Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 5 L **Cargo aircraft** Quantity limitation: 60 L **Special provisions** IB2, T7, TP1, TP8, TP28 **Remarks** Requires Dangerous Goods BOL
TDG	UN1993	FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Acetonitrile)	3	II		**Explosive Limit and Limited Quantity Index** 1 **Passenger Carrying Road or Rail Index** 5 **Special provisions** 16

Section 14. Transport information

Mexico	UN1993	LIQUIDO INFLAMABLE, N.E.P. (Propan-2-ol, Acetonitrile)	3	II		**Special provisions** 274
IMDG	UN1993	FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Acetonitrile). Marine pollutant (Cyclohexane)	3	II	 	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-E, _S-E_ **Special provisions** 274
IATA	UN1993	Flammable liquid, n.o.s. (Propan-2-ol, Acetonitrile)	3	II		The environmentally hazardous substance mark may appear if required by other transportation regulations. **Passenger and Cargo Aircraft** Quantity limitation: 5 L Packaging instructions: 353 **Cargo Aircraft Only** Quantity limitation: 60 L Packaging instructions: 364 **Limited Quantities - Passenger Aircraft** Quantity limitation: 1 L Packaging instructions: Y341 **Special provisions** A3 **Remarks** Requires Shipper's Declaration of Dangerous Goods

PG* : Packing group

Section 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations : **TSCA 8(a) PAIR**: Acetonitrile

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: Acetonitrile; Dichloromethane

Clean Water Act (CWA) 311: Cyclohexane

Section 15. Regulatory information

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Propan-2-ol	30 - 60	Yes.	No.	No.	Yes.	Yes.
Acetonitrile	10 - 30	Yes.	No.	No.	Yes.	Yes.
Dichloromethane	10 - 30	No.	No.	No.	Yes.	Yes.
Cyclohexane	10 - 30	Yes.	No.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Propan-2-ol Acetonitrile Dichloromethane Cyclohexane	67-63-0 75-05-8 75-09-2 110-82-7	30 - 60 10 - 30 10 - 30 10 - 30
Supplier notification	Propan-2-ol Acetonitrile Dichloromethane Cyclohexane	67-63-0 75-05-8 75-09-2 110-82-7	30 - 60 10 - 30 10 - 30 10 - 30

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: ACETONITRILE; ISOPROPYL ALCOHOL; METHYLENE CHLORIDE; CYCLOHEXANE

New York : The following components are listed: Acetonitrile; Ethanenitrile; Dichloromethane; Methylene chloride; Cyclohexane; Benzene, hexahydro-

New Jersey : The following components are listed: ACETONITRILE; CYANOMETHANE; ISOPROPYL ALCOHOL; 2-PROPANOL; METHYLENE CHLORIDE; DICHLOROMETHANE; CYCLOHEXANE

Section 15. Regulatory information

Pennsylvania : The following components are listed: ACETONITRILE; 2-PROPANOL; METHANE, DICHLORO-; CYCLOHEXANE

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Dichloromethane	Yes.	No.	200 µg/day (inhalation)	No.

Canada inventory : All components are listed or exempted.

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

Section 16. Other information

History

Date of issue : 3/28/2014.

Date of previous issue : 10/26/2012.

Version : 5

Indicates information that has changed from previously issued version.

Notice to reader

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