

Material Safety Data Sheet

Barsol A-2904



1. Product and company identification

Product name	: Barsol A-2904
Supplier	: Barton Solvents, Inc. 1920 N.E. Broadway, P.O. Box 221 Des Moines, IA 50306-0221
Code	: 60038970; 96020800
Date of revision	: 9/28/98; 10/22/03; 12/28/06; 9/24/07; 9/2/11
In case of emergency	: CHEMTREC (800) 424-9300
Product type	: Liquid.

2. Hazards identification

Emergency overview

Physical state	: Liquid.
Color	: Clear
Odor	: Aromatic.
Signal word	: Danger!
Hazard statements	: MAY BE FATAL IF ABSORBED THROUGH SKIN. CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: EYE, LENS OR CORNEA. CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, LUNGS, LIVER, DIGESTIVE SYSTEM, CARDIOVASCULAR SYSTEM, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EARS.
Precautionary measures	: Do not breathe vapor or mist. Do not get in eyes, on skin or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

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

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation	: Inhalation of the spray or mist may produce severe irritation of respiratory tract, characterized by coughing, choking or shortness of breath.
Ingestion	: Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin	: This product may irritate skin upon contact.
Eyes	: This product may irritate eyes upon contact.

Potential chronic health effects

Chronic effects	: Contains material that can cause target organ damage.
Carcinogenicity	: No known significant effects or critical hazards.
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.
Target organs	: Contains material which causes damage to the following organs: eye, lens or cornea. Contains material which may cause damage to the following organs: kidneys, lungs, liver, digestive system, cardiovascular system, upper respiratory tract, skin, central nervous system (CNS), ears.

Over-exposure signs/symptoms

Inhalation	: No specific data.
Ingestion	: No specific data.
Skin	: No specific data.
Eyes	: No specific data.
Medical conditions aggravated by over-exposure	: Repeated or prolonged exposure to the substance can produce target organs damage.

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	%
Toluene	108-88-3	41
2-Butanone	78-93-3	>9
Ethyl acetate	141-78-6	>9
Isopropanol	67-63-0	>9
Light Aliphatic Solvent Naphtha (H)	64742-89-8	>9
1-Propyl acetate	109-60-4	<4

4. First aid measures

- Eye contact** : Get medical attention immediately. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses.
- Skin contact** : Get medical attention immediately. Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Inhalation** : Get medical attention immediately. Move exposed person to fresh air. Keep person warm and at rest. 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. 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.
- Ingestion** : 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 immediately.
- 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

- Flammability of the product** : No specific hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
- 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.
- Special remarks on fire hazards** : Vapor may travel considerable distance to source of ignition and flash back. (Toluene)

6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6. Accidental release measures

- Large spill** : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

7. Handling and storage

- Handling** : Do not get in eyes or on skin or clothing. Wash thoroughly after handling.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure controls/personal protection

Ingredient	Exposure limits
Toluene	ACGIH TLV (United States, 2007). TWA: 20 ppm
2-Butanone	OSHA PEL (United States). TWA: 200 ppm ACGIH TLV (United States). TWA: 200 ppm STEL: 300 ppm
Ethyl acetate	OSHA PEL (United States). TWA: 400 ppm ACGIH TLV (United States). TWA: 400 ppm
Isopropanol	ACGIH TLV (United States). TWA: 200 ppm STEL: 400 ppm OSHA PEL (United States). TWA: 400 ppm
Light Aliphatic Solvent Naphtha (H)	ACGIH TLV (United States). TWA: 400 ppm STEL: 500 ppm OSHA PEL (United States). TWA: 500 ppm
1-Propyl acetate	ACGIH TLV (United States). TWA: 200 ppm STEL: 250 ppm OSHA PEL (United States). TWA: 200 ppm

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- 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.
- Personal protection**
- Respiratory** : 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.
- Hands** : 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.
- Eyes** : 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 or dusts.

8. Exposure controls/personal protection

- Skin** : 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.
- 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.

9. Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : Lowest known value: Closed cup: -17.778°C (0°F). (Tagliabue.). (Light Aliphatic Solvent Naphtha (H))
- Auto-ignition temperature** : Lowest known value: 398.89°C (750°F) (Isopropanol).
- Flammable limits** : Greatest known range: Lower: 2% Upper: 12% (Isopropanol)
- Color** : Clear
- Odor** : Aromatic.
- pH** : Neutral.
- Boiling/condensation point** : Lowest known value: 61.111°C (142°F) (Light Aliphatic Solvent Naphtha (H)). Weighted average: 90.72°C (195.3°F)
- Melting/freezing point** : May start to solidify at the following temperature: -83.6°C (-118.5°F) This is based on data for the following ingredient: Ethyl acetate. Weighted average: -91.29°C (-132.3°F)
- Relative density** : Weighted average: 0.83 (Water = 1)
- Vapor pressure** : Highest known value: 9.7 kPa (73 mm Hg) (at 20°C) (Ethyl acetate). Weighted average: 5.69 kPa (42.68 mm Hg) (at 20°C)
- Vapor density** : Highest known value: 3.52 (Air = 1) (1-Propyl acetate). Weighted average: 2.87 (Air = 1)
- Volatility** : 100% (v/v)
- Evaporation rate** : Highest known value: 9.1 (Light Aliphatic Solvent Naphtha (H)) Weighted average: 3.29 compared with Butyl acetate.
- Dispersibility properties** : Not dispersible in the following materials: cold water, hot water.
See solubility in the following materials: methanol, diethyl ether, n-octanol, acetone.
- Solubility** : Easily soluble in the following materials: methanol, diethyl ether.
Soluble in the following materials: n-octanol, acetone.
Insoluble in the following materials: cold water, hot water.

10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : No specific data.
- Incompatible materials** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Toluene	LC50 Inhalation Gas.	Rat	>5000 ppm	1 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
Light Aliphatic Solvent Naphtha (H)	LD50 Oral	Rat	>2000 mg/kg	-
	LC50 Inhalation Vapor	Rat	>5000 ppm	1 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
2-Butanone	LC50 Inhalation Gas.	Rat	>5000 ppm	1 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-

11. Toxicological information

Ethyl acetate	LD50 Oral LC50 Inhalation Gas.	Rat Rat	>2000 mg/kg 16000 ppm	- 6 hours
1-Propyl acetate	LD50 Oral LC50 Inhalation Gas. LD50 Dermal LD50 Dermal LD50 Oral LD50 Oral	Rat Rat Guinea pig Rabbit Mouse Rat	5620 mg/kg 8000 ppm >10 mg/kg >20 mg/kg 8300 mg/kg 9370 mg/kg	- 4 hours - - - -

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Inhalation of vapors may cause dizziness, an irregular heartbeat, narcosis, nausea or asphyxiation. (Toluene)

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Toluene	A4	4	-	-	-	-
2-Butanone	A5	4	-	-	-	-
Ethyl acetate	A5	4	-	-	-	-
Isopropanol	A5	4	-	-	-	-
Light Aliphatic Solvent	A5	4	-	-	-	-
Naphtha (H)						
1-Propyl acetate	A5	4	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Light Aliphatic Solvent Naphtha (H)	Acute LC50 <10 mg/L	Algae	1 hours
Ethyl acetate	Acute LC50 <10 mg/L Acute LC50 290 mg/L	Fish Fish	1 hours 96 hours

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : The product is much more soluble in octanol.

Bioconcentration factor : Not available.

Toxicity of the products of biodegradation : The products of degradation are less toxic than the product itself.


13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. 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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

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

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1263	Paint Related Material	3	II		-

PG* : Packing group

15. Regulatory information

HCS Classification : Highly toxic material
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Barsol A-2904: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Toluene	108-88-3	41
	2-Butanone	78-93-3	19

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

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Not available.	No.	Yes.	No.	No.

16. Other information

Label requirements : MAY BE FATAL IF ABSORBED THROUGH SKIN.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: EYE, LENS OR CORNEA.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, LUNGS, LIVER, DIGESTIVE SYSTEM, CARDIOVASCULAR SYSTEM, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EARS.

Hazardous Material Information System (U.S.A.) :

16. Other information

Health	3
Flammability	3
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Other special considerations : Format Change 09-08-98; Updated TLV 10/22/03; MSDS Update 12/28/06; TLV Update 9/24/07; MSDS Update 9/2/11

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☑ Indicates information that has changed from previously issued version.

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.