

Safety Data Sheet
Silvaspray

SECTION 1: Identification

1.1 Product identifier

Product name	Silvaspray
Product number	SS49
Brand	Caswell

1.2 Other means of identification

Grey viscous liquid

1.3 Recommended use of the chemical and restrictions on use

Metallizing objects before plating

1.4 Supplier's details

Name	Caswell Inc
Address	7696 Route 31 Lyons, NY 14489 USA
Telephone	315 946 1213
Fax	315 946 4456
email	sales@caswellplating.com

1.5 Emergency phone number(s)

Office Hours (9-4ET): 315 946 1213
24 Hour: CHEMTEL US# 1-800-255-3924 Intl# +01-813-248-0585

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

- Flammable liquids (chapter 2.6), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 2
- Skin corrosion/irritation (chapter 3.2), Cat. 3
- Acute toxicity, oral (chapter 3.1), Cat. 3

2.2 GHS label elements, including precautionary statements

Pictogram

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Signal word

Warning

Hazard statement(s)

H225
H319
H316
H301

Highly flammable liquid and vapor
Causes serious eye irritation
Causes mild skin irritation
Toxic if swallowed

Precautionary statement(s)

P210

P233
P240
P241
P242
P243
P280
P303+P361+P353

P370+P378
P403+P235
P501
P264
P305+P351+P338

P337+P313
P332+P313
P270
P301+P310
P321
P330
P405

Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/.../equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use ... to extinguish.
Store in a well ventilated place. Keep cool.
Dispose of contents/container to ...
Wash ... thoroughly after handling.
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 skin irritation occurs: Get medical advice/attention.
Do not eat, drink or smoke when using this product.
IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
Specific treatment (see ... on this label).
Rinse mouth.
Store locked up.

2.3 Other hazards which do not result in classification

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. Silver

Concentration 40 - 50 % (Volume)

Other names / synonyms
CAS no.

ARGENTUM; C.I. 77870; L-3; SHELL SILVER; SILVER ATOM
7440-22-4

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2. ETHANOL

Concentration 30 - 40 %

Other names / synonyms ABSOLUTE ETHANOL; ALCOHOL; ALCOHOL DEHYDRATED; ALCOHOL, ANHYDROUS; ALGRAIN; ANHYDROL; COLOGNE SPIRIT; COLOGNE SPIRITS (ALCOHOL); ETHANOL 200 PROOF; ETHANOL SOLUTION; ETHYL ALCOHOL; ETHYL ALCOHOL ANHYDROUS; ETHYL HYDRATE; ETHYL HYDROXIDE; etoh; FERMENTATION ALCOHOL; GRAIN ALCOHOL; JAYSOL; JAYSOL S; METHYLCARBINOL; MOLASSES ALCOHOL; NCI-C03134; POTATO ALCOHOL; SD ALCOHOL 23-HYDROGEN; SPIRIT; SPIRITS OF WINE; TECSOL; UN 1170

EC no. 200-578-6

CAS no. 64-17-5

Index no. 603-002-00-5

- Flammable liquids (chapter 2.6), Cat. 2

H225 Highly flammable liquid and vapor

3. ISOPROPANOL

Concentration 1 - 5 %

Other names / synonyms 2-HYDROXYPROPANE; 2-PROPANOL; 2-PROPYL ALCOHOL; ALCOJEL; ALCOSOLVE; ALCOSOLVE 2; AVANTIN; AVANTINE; CHROMAR; COMBI-SCHUTZ; DIMETHYLCARBINOL; HARTOSOL; IMSOL A; ISOHOL; ISOPROPYL ALCOHOL; LUTOSOL; N-PROPAN-2-OL; PETROHOL; PRO; PROPAN-2-OL; PROPOL; reaction mass of: bis(1S,2S,4S)-(1-benzyl-4-tert-butoxycarboxamido-2-hydroxy-5-phenyl)pentylammonium succinate; SEC-PROPYL ALCOHOL; SPECTRAR; STERISOL HAND DISINFECTANT; TAKINEOCOL; UN 1219

EC no. 414-810-0

CAS no. 67-63-0

Index no. 607-403-00-6

- Specific target organ toxicity, repeated exposure (chapter 3.9), Cat. 2

- Eye damage/irritation (chapter 3.3), Cat. 1

- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1

- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1

H318 Causes serious eye damage

H373 May cause damage to organs through prolonged or repeated exposure

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

4. N-METHYL-2-PYRROLIDONE

Concentration 1 - 2 %

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Other names / synonyms	1-METHYL-2-PYRROLIDINONE; 1-METHYL-5-PYRROLIDINONE; 2-Pyrrolidinone, 1-methyl-; METHYLPYRROLIDONE; METHYLPYRROLIDONE,N-,2-; N-METHYLPYRROLIDINONE; N-METHYLPYRROLIDONE; NMP
EC no.	212-828-1
CAS no.	872-50-4
Index no.	606-021-00-7

- Eye damage/irritation (chapter 3.3), Cat. 2
- Skin corrosion/irritation (chapter 3.2), Cat. 2

H315	Causes skin irritation
H319	Causes serious eye irritation

5. Methanol

Concentration	1 - 3 %
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Other names / synonyms	CARBINOL; COLONIAL SPIRIT; COLUMBIAN SPIRIT; meoh; METHYL ALCOHOL; METHYL HYDROXIDE; METHYLALCOHOL; METHYLOL; MONOHYDROXYMETHANE; NA 1230 (DOT); PYROXYLIC SPIRIT; RCRA WASTE NUMBER U154; UN 1230 (DOT); WOOD ALCOHOL; WOOD NAPHTHA; WOOD SPIRIT
EC no.	200-659-6
CAS no.	67-56-1
Index no.	603-001-00-X

- Flammable liquids (chapter 2.6), Cat. 2
- Acute toxicity (chapter 3.1), Cat. 3
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 1

H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H331	Toxic if inhaled
H370	Causes damage to organs

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration.
In case of skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

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If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

May cause eye burns, skin irritation. May be harmful or fatal if swallowed. May cause deterioration of the optic nerve if absorbed through the skin in large amounts. The absorption of silver compounds through breaks in the skin may result in local pigmentation at the site of injury. Repeated exposures likely to cause significant system damage.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Dry chemical, foam, carbon dioxide, water fog.

5.2 Specific hazards arising from the chemical

Can release vapors that form explosive mixtures at temps above the flash point. Empty containers can contain product residue can be dangerous. Vapors are heavier than air. Dried product may support combustion when exposed to sufficient heat.

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.2 Environmental precautions

Silver is a known environmental hazard. Specific data on this mixture is not available.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Flammable liquids

7.2 Conditions for safe storage, including any incompatibilities

Avoid strong oxidizers, Ammonia, Peroxides, Acids, Chlorinated Compounds

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. SILVER (CAS: 7440-22-4 EC: 231-131-3)

PEL-TWA (Inhalation): 0.01 mg/m³ (OSHA)

USA. Occupational Exposure Limits

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(OSHA) - Table Z-1 Limits for Air
Contaminants

2. SILVER (CAS: 7440-22-4 EC: 231-131-4)

PEL-TWA (Inhalation): 0.1 mg/m³ (ACGIH)
USA. ACGIH Threshold Limit Values
(TLV)

3. Silver, metal and soluble compounds (as Ag) (CAS: 7440-22-4)

PEL (Inhalation): 0.01 mg/m³ (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

4. Silver, metal and soluble compounds (as Ag) (CAS: 7440-22-4)

PEL (Inhalation): 0.01 mg/m³ (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

5. Silver, metal and soluble compounds (as Ag) (CAS: 7440-22-4)

REL (Inhalation): 0.01 mg/m³ (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

6. Ethyl alcohol (Ethanol) (CAS: 64-17-5)

PEL (Inhalation): 1000 ppm (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

7. Ethyl alcohol (Ethanol) (CAS: 64-17-5)

PEL (Inhalation): 1900 mg/m³ (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

8. Ethyl alcohol (Ethanol) (CAS: 64-17-5)

PEL (Inhalation): 1000 ppm (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

9. Ethyl alcohol (Ethanol) (CAS: 64-17-5)

REL (Inhalation): 1000 ppm (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

10. Isopropyl alcohol (CAS: 67-63-0)

PEL (Inhalation): 400 ppm (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

11. Isopropyl alcohol (CAS: 67-63-0)

PEL (Inhalation): 980 mg/m³ (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

12. Isopropyl alcohol (CAS: 67-63-0)

PEL (Inhalation): 400 ppm, (ST) 500 ppm (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

13. Isopropyl alcohol (CAS: 67-63-0)

REL (Inhalation): 400 ppm, (ST) 500 ppm (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

14. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6)

PEL-TWA: 200 ppm (ACGIH)

15. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6)

Headache, Nausea, Dizziness, Eye damage Substances for which there is a Biological Exposure Index or Indices
(see BEI® section) Danger of cutaneous absorption

16. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6)

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STEL: 250 ppm (ACGIH)

17. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6)

PEL-TWA: 200 ppm, 325 mg/m³ (NIOSH)

18. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6)

Potential for dermal absorption

19. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6)

PEL-TWA: 200 ppm, 260 mg/m³ (OSHA)

USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

20. Methyl alcohol (CAS: 67-56-1)

PEL (Inhalation): 200 ppm (OSHA)

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

21. Methyl alcohol (CAS: 67-56-1)

PEL (Inhalation): 260 mg/m³ (OSHA)

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

22. Methyl alcohol (CAS: 67-56-1)

PEL (Inhalation): 200 ppm, (ST) 250 ppm, (C) 1000 ppm (Cal/OSHA)

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

23. Methyl alcohol (CAS: 67-56-1)

REL (Inhalation): 200 ppm, (ST) 250 ppm (NIOSH)

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

8.2 Appropriate engineering controls

Use with adequate ventilation

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

Eye/face protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Wear respiratory equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

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SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form	Grey Liquid
Odor	Strong paint odor
Odor threshold	
pH	Not Determined
Melting point/freezing point	32 deg F
Initial boiling point and boiling range	172 deg F
Flash point	55 deg F
Evaporation rate	Slower Than Water
Flammability (solid, gas)	Flammable Liquid
Upper/lower flammability limits	
Upper/lower explosive limits	
Vapor pressure	
Vapor density	Heavier Than Air
Relative density	1.378
Solubility(ies)	Partial In Water
Partition coefficient: n-octanol/water	
Auto-ignition temperature	
Decomposition temperature	
Viscosity	
Explosive properties	
Oxidizing properties	

Other safety information

VOC 4.700 lbs/gl a packed

SECTION 10: Stability and reactivity

10.2 Chemical stability

Stable

10.4 Conditions to avoid

Sparks. Open Flames. Elevated Temperatures

10.6 Hazardous decomposition products

CO₂, CO, Nitrogen containing gases

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Dermal LD₅₀: 12800 mg/kg (rabbit)

Oral LD₅₀: 3600 mg/kg (mice)

Inhalation LC₅₀: 16000 ppm/8H

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STOT-single exposure

Target Organs: Eyes, Skin, Liver, Respiratory System, Blood, Reproduction System, Nervous System, Digestive Tract

SECTION 12: Ecological information

SECTION 13: Disposal considerations

Disposal of the product

Consult appropriate federal and local regulations for disposal. Empty containers are subject to the same regulations.

SECTION 14: Transport information

DOT (US)

UN Number: UN1263

Class: 3

Packing Group: II

Proper Shipping Name: Paint

Reportable quantity (RQ): 1000 Pounds

Marine pollutant:

Poison inhalation hazard:

IMDG

UN Number: UN1263

Class: 3

Packing Group: II

EMS Number:

Proper Shipping Name: Paint

IATA

UN Number: UN1263

Class: 3

Packing Group: II

Proper Shipping Name: Paint

SECTION 15: Regulatory information

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

Massachusetts Right To Know Components

Chemical name: Silver

CAS number: 7440-22-4

New Jersey Right To Know Components

Common name: SILVER

CAS number: 7440-22-4

Pennsylvania Right To Know Components

Chemical name: Silver

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CAS number: 7440-22-4

New Jersey Right To Know Components

Common name: ETHYL ALCOHOL

CAS number: 64-17-5

Pennsylvania Right To Know Components

Chemical name: Ethanol

CAS number: 64-17-5

Massachusetts Right To Know Components

Chemical name: Isopropyl alcohol (mfg-strong acid process)

CAS number: 67-63-0

New Jersey Right To Know Components

Common name: ISOPROPYL ALCOHOL

CAS number: 67-63-0

Pennsylvania Right To Know Components

Chemical name: 2-Propanol

CAS number: 67-63-0

Massachusetts Right To Know Components

Chemical name: N-Methyl-2-pyrrolidone

CAS number: 872-50-4

New Jersey Right To Know Components

Common name: 1-METHYL-2-PYRROLIDONE

CAS number: 872-50-4

Pennsylvania Right To Know Components

Chemical name: 2-Pyrrolidinone, 1-methyl- 2,beta-butoxyethoxyethyl Chloride

CAS number: 872-50-4

California Prop. 65 components

Chemical name: N-METHYL-2-PYRROLIDONE

CAS number: 872-50-4

06/15/2001 - developmental

Massachusetts Right To Know Components

Chemical name: Methanol

CAS number: 67-56-1

New Jersey Right To Know Components

Common name: METHYL ALCOHOL

CAS number: 67-56-1

Pennsylvania Right To Know Components

Chemical name: Methanol

CAS number: 67-56-1

HMIS Rating

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Silvaspray	
HEALTH	* 2
FLAMMABILITY	3
PHYSICAL HAZARD	0
PERSONAL PROTECTION	J

NFPA Rating



SECTION 16: Other information

16.1 Further information/disclaimer

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall Caswell Inc be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if Caswell Inc has been advised of the possibility of such damages.