

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : POWER SOLV 5000 LIQUID 1 GL

Material number : 00000000000055521

Manufacturer or supplier's details

Company : Zep Inc.

Address : 350 Joe Frank Harris Parkway, SE
Emerson, GA 30137

Telephone : 404-352-1680

Emergency telephone numbers**For SDS Information** : Compliance Services 1-877-428-9937**For a Medical Emergency** : 877-541-2016 Toll Free - All Calls Recorded**For a Transportation Emergency** : CHEMTREC: 800-424-9300 - All Calls Recorded.
In the District of Columbia 202-483-7616**Recommended use of the chemical and restrictions on use**

Recommended use : Degreaser

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

| | |
|------------|-------------------|
| Appearance | liquid |
| Colour | colourless, clear |
| Odour | characteristic |

GHS Classification

Flammable liquids : Category 2
 Skin irritation : Category 2
 Eye irritation : Category 2A
 Carcinogenicity : Category 2
 Reproductive toxicity : Category 1B
 Specific target organ toxicity - single exposure : Category 3 (Respiratory system, Central nervous system)
 Specific target organ toxicity - repeated exposure (Inhalation) : Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H351 Suspected of causing cancer.
 H360 May damage fertility or the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements

: **Prevention:**

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

Dispose of contents/container in accordance with local regulation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

: Mixture

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

Hazardous components

| Chemical name | CAS-No. | Concentration [%] |
|-----------------|----------|-------------------|
| 1-bromopropane | 106-94-5 | >= 90 - <= 100 |
| propan-1-ol | 71-23-8 | >= 1 - < 5 |
| 1,2-epoxybutane | 106-88-7 | >= 1 - < 5 |

The exact percentages of disclosed substances are withheld as trade secrets.

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician.
Wash off immediately with plenty of water for at least 15 minutes.
Remove contaminated clothing and shoes.
Wash contaminated clothing before reuse.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : Effects are dependent on exposure (dose, concentration, contact time).
Effects are immediate and delayed.
Chronic effects are delayed and symptoms may not be observed during an exposure.
Symptoms may include irritation, redness, pain, and rash.
Causes serious eye damage.
Causes skin irritation.
Suspected of causing cancer.
Review section 2 of SDS to see all potential hazards.
- Notes to physician : Treat symptomatically. Symptoms may be delayed.

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon dioxide (CO₂)
Carbon monoxide
Smoke
Bromine compounds
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
-

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
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.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
-

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Avoid formation of aerosol.
-

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

Do not breathe vapours/dust.
 Avoid exposure - obtain special instructions before use.
 Avoid contact with skin and eyes.
 For personal protection see section 8.
 Smoking, eating and drinking should be prohibited in the application area.
 Take precautionary measures against static discharges.
 Provide sufficient air exchange and/or exhaust in work rooms.
 Open drum carefully as content may be under pressure.
 Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : No smoking.
 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.
 Observe label precautions.
 Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Keep away from oxidizing agents and strongly acid or alkaline materials.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Components with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|-----------------|----------|-------------------------------|--|-----------|
| 1-bromopropane | 106-94-5 | TWA | 0.1 ppm | ACGIH |
| | | PEL | 5 ppm 25 mg/m ³ | CAL PEL |
| propan-1-ol | 71-23-8 | TWA | 100 ppm | ACGIH |
| | | TWA | 200 ppm 500 mg/m ³ | NIOSH REL |
| | | ST | 250 ppm 625 mg/m ³ | NIOSH REL |
| | | TWA | 200 ppm 500 mg/m ³ | OSHA Z-1 |
| | | STEL | 250 ppm 625 mg/m ³ | OSHA P0 |
| | | TWA | 200 ppm 500 mg/m ³ | OSHA P0 |
| | | PEL | 200 ppm 500 mg/m ³ | CAL PEL |
| | | STEL | 250 ppm 625 mg/m ³ | CAL PEL |
| 1,2-epoxybutane | 106-88-7 | TWA | 2 ppm | US WEEL |

Engineering measures : effective ventilation in all processing areas

Personal protective equipment

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

| | |
|--------------------------|--|
| Respiratory protection | : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. |
| Hand protection | |
| Material | : Protective gloves |
| Remarks | : The suitability for a specific workplace should be discussed with the producers of the protective gloves. |
| Eye protection | : Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Skin and body protection | : Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place. |
| Hygiene measures | : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday. |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|------------------------------|---------------------------|
| Appearance | : liquid |
| Colour | : colourless, clear |
| Odour | : characteristic |
| Odour Threshold | : No data available |
| pH | : No data available |
| Melting point/freezing point | : No data available |
| Boiling point | : 70 °C |
| Flash point | : No data available |
| Evaporation rate | : > 1 |
| Upper explosion limit | : 8.5 %(V) |
| Lower explosion limit | : 4.6 %(V) |
| Vapour pressure | : 147.72 hPa |
| Relative vapour density | : No data available |
| Density | : 1.316 g/cm ³ |
| Bulk density | : No data available |
| Solubility(ies) | |

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

| | |
|--|----------------------------------|
| Water solubility | : insoluble |
| Solubility in other solvents | : insoluble |
| Partition coefficient: n-octanol/water | : No data available |
| Auto-ignition temperature | : No data available |
| Thermal decomposition | : No data available |
| Viscosity | |
| Viscosity, dynamic | : No data available |
| Viscosity, kinematic | : 2.1 mm ² /s (20 °C) |

SECTION 10. STABILITY AND REACTIVITY

| | |
|------------------------------------|---|
| Reactivity | : Stable |
| Chemical stability | : Stable under normal conditions. |
| Possibility of hazardous reactions | : No decomposition if stored and applied as directed. Vapours may form explosive mixture with air. |
| Conditions to avoid | : Heat, flames and sparks. |
| Incompatible materials | : Oxidizing agents Metals Acids Alkali metals Aluminium Zinc |
| Hazardous decomposition products | : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Bromine |

SECTION 11. TOXICOLOGICAL INFORMATION**Potential Health Effects**

| | |
|------------------------------|---|
| Aggravated Medical Condition | : None known. |
| Symptoms of Overexposure | : Effects are dependent on exposure (dose, concentration, contact time). Effects are immediate and delayed. Chronic effects are delayed and symptoms may not be observed during an exposure. Symptoms may include irritation, redness, pain, and rash. |

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

Carcinogenicity:

| | | |
|-------------|--|----------|
| IARC | Group 2B: Possibly carcinogenic to humans | |
| | 1,2-epoxybutane | 106-88-7 |
| OSHA | No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens. | |
| NTP | Reasonably anticipated to be a human carcinogen | |
| | 1-bromopropane | 106-94-5 |

Acute toxicity**Product:**

Acute oral toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate : > 200 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Components:

propan-1-ol:
Acute dermal toxicity : LD50 Dermal Rabbit: 5,040 mg/kg

Skin corrosion/irritation**Product:**

Remarks: Irritating to skin.

Components:

propan-1-ol:
Species: human skin
Exposure time: 24 h
Result: Mild skin irritation

Serious eye damage/eye irritation**Product:**

Remarks: Irritating to eyes.

Components:

propan-1-ol:
Species: Rabbit
Exposure time: 24 h
Result: Moderate eye irritation

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Further information**Product:**

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity**

No data available

Persistence and degradability

No data available

Bioaccumulative potential**Product:**

Partition coefficient: n-octanol/water : Remarks: No data available

Components:

1-bromopropane :
Partition coefficient: n-octanol/water : Pow: 2.1

1,2-epoxybutane :
Partition coefficient: n-octanol/water : Pow: 0.68

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

Mobility in soil

No data available

Other adverse effects

No data available

Product:

| | |
|-----------------------------------|---|
| Regulation | 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances |
| Remarks | This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). |
| Additional ecological information | : No data available |

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

| | |
|------------------------|--|
| Waste from residues | : Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of in accordance with local regulations. |
| Contaminated packaging | : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum. |

SECTION 14. TRANSPORT INFORMATION

Transportation Regulation: 49 CFR (USA):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IMDG (Vessel):
UN2344, BROMOPROPANES, 3, II

Transportation Regulation: IATA (Cargo Air):
UN2344, BROMOPROPANES, 3, II

Transportation Regulation: IATA (Passenger Air):
UN2344, BROMOPROPANES, 3, II

Transportation Regulation: TDG (Canada):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

Transportation Notes

This product does not have a flashpoint that can be measured, therefore this product does not meet the criteria as a flammable liquid under the regulations of the US DOT special provisions (CFR 172.101 (c)(12)(iv)) and Canadian TDG (SOR/2017-137, 2.18 (1)(a)), and does not meet the definition of any other hazard class. Based on this information and conventions used by our supplier(s), this product is not regulated for transport in the United States and Canada. As noted above, a transport classification of UN2344 - Bromopropanes, should be used for shipments by air (IATA) or by sea (IMDG).

The product as delivered to the customer conforms to packaging requirements for shipment by road under US Department of Transportation (DOT) regulations. Additional transportation classifications noted above are for reference only, and not a certification or warranty of the suitability of the packaging for shipment under these alternative transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|-----------------|----------|-----------------------|--------------------------------|
| 1,2-epoxybutane | 106-88-7 | 100 | * |

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
 Skin corrosion or irritation
 Serious eye damage or eye irritation
 Carcinogenicity
 Reproductive toxicity
 Specific target organ toxicity (single or repeated exposure)

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

| | | |
|-----------------|----------|-----|
| 1,2-epoxybutane | 106-88-7 | 1 % |
|-----------------|----------|-----|

California Prop. 65

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017



WARNING: This product can expose you to chemicals including 1-bromopropane, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

TSCA On TSCA Inventory
DSL All components of this product are on the Canadian DSL

For information on the country notification status for other regions please contact the manufacturer's regulatory group.

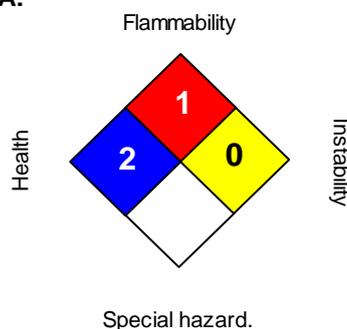
Inventory Acronym and Validity Area Legend:

TSCA (USA), DSL (Canada), NDSL (Canada)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

| | |
|------------------------|----------|
| HEALTH | 2 |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 = Slight,
 2 = Moderate, 3 = High
 4 = Extreme, * = Chronic

OSHA - GHS Label Information:

Hazard pictograms



Signal word

Hazard statements

: **Danger:**
 : Highly flammable liquid and vapour. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements

: **Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. 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. Do

POWER SOLV 5000 LIQUID 1 GL

Version 2.1

Revision Date 11/14/2017

Print Date 11/28/2017

not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool.

Disposal: Dispose of contents/container in accordance with local regulation.

| | |
|----------------|------------|
| Version: | 2.1 |
| Revision Date: | 11/14/2017 |
| Print Date: | 11/28/2017 |

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. Users should make their own investigations to determine the suitability and applicability of the information for their particular purposes. This SDS has been prepared by the Compliance Services organization supporting this manufacturer, supplier or distributor.

Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®, Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®, Rexodan®, Mykal™, and a number of private labeled brands.