Section 1. Identification

GHS product identifier : KETCHUM BLACK LIQUID
Product type : Liquid.
SDS # : 8bg2:i3cs:8j8

Relevant identified uses of the substance or mixture and uses advised against
Printing ink or additive.

<table>
<thead>
<tr>
<th>Uses advised against</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

Supplier’s details
Jorgensen Laboratories, Inc.
1450 N. Van Buren Avenue
Loveland, CO 80538
www.jorvet.com

Emergency telephone number (with hours of operation)
For product information during business hours please call (800) 525-5614
24 Hour Emergency Spill Contact call: (800) 424-9300 Chemtrec (US/Canada)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
Classification of the substance or mixture : Not classified.

GHS label elements
Signal word : No signal word.
Hazard statements : No known significant effects or critical hazards.

Precautionary statements
Prevention : Not applicable.
Response : Not applicable.
Storage : Not applicable.
Disposal : Not applicable.
Hazards not otherwise classified : None known.

Date of issue/Date of revision : 6/11/2015
Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Mixture</th>
</tr>
</thead>
</table>

### Ingredient name

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>disodium tetraborate decahydrate</td>
<td>1 - 5</td>
<td>1303-96-4</td>
</tr>
<tr>
<td>propan-2-ol</td>
<td>.5 - 1.5</td>
<td>67-63-0</td>
</tr>
</tbody>
</table>

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

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

### 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. Get medical attention if irritation occurs.

#### Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

#### Skin contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

#### Ingestion

Wash out mouth with water. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- **Eye contact**: No known significant effects or critical hazards.
- **Inhalation**: No known significant effects or critical hazards.
- **Skin contact**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- **Eye contact**: No specific data.
- **Inhalation**: No specific data.
- **Skin contact**: No specific data.
- **Ingestion**: No specific data.

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

#### Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

#### Specific treatments

No specific treatment.

#### Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Date of issue/Date of revision : 8/11/2015. Date of previous issue : No previous validation. Version : 1
Section 5. Fire-fighting measures

Extinguishing media
Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical
Hazardous thermal decomposition products: In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

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.

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

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. 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".

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).

Methods and materials for containment and cleaning up
Small spill:
Stop leak if without risk. Move containers from spill area. 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.

Large spill:
Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling
Protective measures:
Put on appropriate personal protective equipment (see Section 8).

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.

Date of issue/Date of revision: 8/11/2015. Date of previous issue: No previous validation. Version: 1
Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities:

Store in accordance with local regulations. 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. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>disodium tetraborate decahydrate</td>
<td>ACGIH TLV (United States, 3/2012).</td>
</tr>
<tr>
<td></td>
<td>STEL: 6 mg/m³ 15 minutes. Form: Inhalable fraction</td>
</tr>
<tr>
<td></td>
<td>TWA: 2 mg/m³ 8 hours. Form: Inhalable fraction</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 6/2009).</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ 10 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (United States, 3/2012).</td>
</tr>
<tr>
<td></td>
<td>STEL: 400 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 200 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 6/2009).</td>
</tr>
<tr>
<td></td>
<td>STEL: 1225 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>STEL: 500 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 980 mg/m³ 10 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 400 ppm 10 hours.</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 6/2010).</td>
</tr>
<tr>
<td></td>
<td>TWA: 980 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 400 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>STEL: 1225 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>STEL: 500 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 980 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 400 ppm 8 hours.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol</td>
<td>ACGIH TLV (United States, 3/2012).</td>
</tr>
<tr>
<td></td>
<td>STEL: 400 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 200 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 6/2009).</td>
</tr>
<tr>
<td></td>
<td>STEL: 1225 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>STEL: 500 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 980 mg/m³ 10 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 400 ppm 10 hours.</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 6/2010).</td>
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<tr>
<td></td>
<td>TWA: 980 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 400 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>STEL: 1225 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>STEL: 500 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 980 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 400 ppm 8 hours.</td>
</tr>
</tbody>
</table>

Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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: safety glasses with side-shields.

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.

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Section 8. Exposure controls/personal protection

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.

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

Appearance

Physical state : Liquid.
Color : Black.
Odor threshold : No applicable information is available.
pH : Not available.

Boiling point : No applicable information is available.
Flash point : Higher than 93.3°C (200°F).

Evaporation rate : No applicable information is available.
Flammability (solid, gas) : Not available.
Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : No applicable information is available.
Vapor density : Not available.
Relative density : Not available.
Solubility : Not available.
Partition coefficient: n-octanol/water : No applicable information is available.
Auto-ignition temperature : Not available.
Decomposition temperature : No applicable information is available.
Viscosity : No applicable information is available.
Density : 990 g/l / 8.26 lbs/gal

VOC data:

26 % by weight
25.7 % by volume
257.4 g/l / 2.1 lbs/gal
525.5 g/l / 4.4 lbs/gal [With volume exclusion [water excluded]]

Section 10. Stability and reactivity

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

Chemical stability : The product is stable.

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

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Date of issue/Date of revision : 8/11/2015. Date of previous issue : No previous validation. Version : 1
Section 10. Stability and reactivity

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

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>12800 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>5045 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Carcinogenicity

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact: No known significant effects or critical hazards.
Inhalation: No known significant effects or critical hazards.
Skin contact: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data.
Inhalation: No specific data.
Skin contact: No specific data.
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

Date of issue/Date of revision: 8/11/2015. Date of previous issue: No previous validation. Version: 1
Section 11. Toxicological information

**Potential immediate effects**  :  Not available.
**Potential delayed effects** :  Not available.
**Potential chronic health effects**
Not available.

**General**  :  No known significant effects or critical hazards.
**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.

Section 12. Ecological information

**Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
</table>
| propan-2-ol             | Acute LC50 1400000 µg/l Marine water  
|                         | Acute LC50 4200000 µg/l Fresh water  | Crustaceans - Crangon crangon  
|                         |                          | Fish - Rasbora heteromorpha          | 48 hours |
|                         |                          |                                      | 96 hours |

**Persistence and degradability**
Not available.

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol</td>
<td>0.05</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

**Mobility in soil**

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

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

Section 13. Disposal considerations

**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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Date of issue/Date of revision** :  8/11/2015.  **Date of previous issue** :  No previous validation.  **Version** :  1
### Section 14. Transport information

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Packing group</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Additional information</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

**Special precautions for user**: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

### Section 15. Regulatory information

**U.S. Federal regulations**

**SARA 313**

**Product name** | **CAS number** | **%**
--- | --- | ---
Form R - Reporting requirements | propan-2-ol | 67-63-0 | 1.222
Supplier notification | propan-2-ol | 67-63-0 | 1.222

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**

**Date of issue/Date of revision**: 8/11/2015.  **Date of previous issue**: No previous validation.  **Version**: 1
Section 16. Other information

History

Date of printing : 8/24/2015.
Date of issue/Date of revision : 8/11/2015.
Date of previous issue : No previous validation.
Version : 1

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

Flint Group has prepared this Safety Data Sheet (“SDS”) in compliance with 29 CFR 1910.1200, understands that its customers may use this SDS to comply with that section, and believes that the data set forth herein are accurate as of the date hereof; however, this SDS shall not constitute a warranty with respect thereto.