

1. Identification

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|---|---|
| Product identifier | RELATECH SOLUBLE OIL 1234 CF |
| Other means of identification | METALWORKING FLUID |
| SDS number | |
| Recommended use | Not applicable METALWORKING FLUID |
| Recommended restrictions | None known |
| Manufacturer/Importer/Supplier/Distributor information | |
| Manufacturer | |
| Company name | RELADYNE LLC 8280 Montgomery Rd, Suite 101 Cincinnati, OH 45236 |
| Telephone (General Information) | 888-830-3156 www.reladyne.com |
| Emergency telephone number | INFOTRAC 800-535-5053 |

2. Hazard(s) identification

| | | |
|-------------------------|-----------------------------------|------------|
| Physical hazards | Not classified. | |
| Health hazards | Serious eye damage/eye irritation | Category 2 |

Environmental hazards

OSHA defined hazards

Label elements

Not classified.
Not classified.



| | |
|-------------------------|--------------------------------|
| Signal word | Warning |
| Hazard statement | Causes serious eye irritation. |

Precautionary statement

Prevention

Obtain special instructions before use. Do not breathe mist or vapor. Avoid contact during pregnancy/while nursing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response

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 ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Take off contaminated clothing and wash it before reuse. IF exposed or concerned: Get medical advice/attention.

Storage

Store in accordance with local/regional/national/international regulation. Store in a well-ventilated area. Keep container tightly closed. Protect from sunlight. Store away from incompatible materials.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---|--------------------------|------------|-----------|
| SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM | | 64742-52-5 | 60 - 100 |
| DIETHYLENE GLYCOL | | 111-46-6 | 0.5 - 1.5 |
| PETROLEUM SULFONIC ACID, SODIUM SALT | | 68608-26-4 | 0.5 - 1.5 |
| 2-BUTOXYETHANOL | | 111-76-2 | 0.1 - 1 |
| Other components below reportable levels | | | 7 - 13 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

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| Inhalation | If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Under normal conditions of intended use, this material is not expected to be an inhalation hazard. |
| Skin contact | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse. |
| Eye contact | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth thoroughly. Do not give liquids. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Symptoms may be delayed. |
| General information | IF exposed or concerned: Get medical advice/attention. |

5. Fire-fighting measures

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| Suitable extinguishing media | Foam. Dry chemical powder. Carbon dioxide (CO ₂). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Wear suitable protective equipment. |
| Fire fighting equipment/instructions | Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
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Methods and materials for containment and cleaning up

Local authorities should be advised if significant spillages cannot be contained. This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Clean up in accordance with all applicable regulations. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not breathe mist or vapor. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. To maintain product quality, do not store in heat or direct sunlight. Store in original tightly closed container. Room temperature - normal conditions. Store away from incompatible materials (see Section 10 of the SDS). Keep this material away from food, drink and animal feed. Do not allow material to freeze. If frozen, product may separate. Thaw completely at room temperature and stir thoroughly prior to use.

8. Exposure controls/personal protection

Occupational exposure limits

U.S. - OSHA

| | Type | Value |
|---|------|---------------------|
| SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM (CAS 64742-52-5) | PEL | 5 mg/m ³ |

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| | Type | Value |
|--------------------------------|------|---------------------------------|
| 2-BUTOXYETHANOL (CAS 111-76-2) | PEL | 240 mg/m ³ 50 ppm |

U.S. - NIOSH

| | Type | Value |
|---|------|----------------------|
| SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM (CAS 64742-52-5) | STEL | 10 mg/m ³ |

US. NIOSH: Pocket Guide to Chemical Hazards

| | Type | Value |
|--------------------------------|------|-------------------------------|
| 2-BUTOXYETHANOL (CAS 111-76-2) | TWA | 24 mg/m ³ 5 ppm |

ACGIH

| | Type | Value |
|---|------|---------------------|
| SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM (CAS 64742-52-5) | TWA | 5 mg/m ³ |

US. ACGIH Threshold Limit Values

| | Type | Value |
|--------------------------------|------|--------|
| 2-BUTOXYETHANOL (CAS 111-76-2) | TWA | 20 ppm |

Exposure guidelines**US - California OELs: Skin designation**

2-BUTOXYETHANOL (CAS 111-76-2) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2-BUTOXYETHANOL (CAS 111-76-2) Skin designation applies.

US - Tennessee OELs: Skin designation

2-BUTOXYETHANOL (CAS 111-76-2) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

2-BUTOXYETHANOL (CAS 111-76-2) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2-BUTOXYETHANOL (CAS 111-76-2) Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended.

Skin protection

Hand protection Use protective gloves made of: Nitrile.

Other Wear suitable protective clothing and gloves. Use of an impervious apron is recommended.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Do not get in eyes, on skin, on clothing. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

| | |
|---|--|
| Appearance | AMBER |
| Physical state | Liquid. |
| Form | Liquid. |
| Color | Amber. |
| Odor | CHEMICAL |
| Odor threshold | Not available. |
| pH | Not Applicable |
| Melting point/freezing point | < 32 °F (< 0 °C) |
| Initial boiling point and boiling range | > 212 °F (> 100 °C) |
| Flash point | > 350 °F (> 160 °C) Cleveland Open Cup |
| Evaporation rate | Like water when diluted |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | Not available. |
| Vapor density | Not available. |

| | |
|--|----------------------|
| Relative density | Not available. |
| Solubility(ies) | 100 % Water Miscible |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| pH in aqueous solution | 9.4 @ 5% |
| Specific gravity | 0.98 |
| VOC ASTM D2369 | 16 % |

10. Stability and reactivity

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|---|--|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur. |
| Conditions to avoid | Heat, flames and sparks. Contact with incompatible materials. |
| Incompatible materials | Avoid contact with oxidizers or reducing agents. |
| Hazardous decomposition products | Smoke, fumes, and oxides of carbon |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|---|
| Inhalation | Prolonged inhalation may be harmful. |
| Skin contact | May be irritating to the skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Ingestion | May be harmful if swallowed and enters airways. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. Expected to be a low ingestion hazard. |

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| Symptoms related to the physical, chemical and toxicological characteristics | Direct contact with eyes may cause temporary irritation. |
|---|--|

Information on toxicological effects

| | |
|-----------------------|---|
| Acute toxicity | Expected to be a low hazard for usual industrial or commercial handling by trained personnel. |
|-----------------------|---|

| Components | Species | Test Results |
|----------------------------------|----------------|---------------------|
| 2-BUTOXYETHANOL (CAS 111-76-2) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | 400 mg/kg |
| <i>Inhalation</i> | | |
| LC50 | Mouse | 700 ppm, 7 Hours |
| | Rat | 450 ppm, 4 Hours |
| <i>Oral</i> | | |
| LD50 | Guinea pig | 1.2 g/kg |
| | Mouse | 1.2 g/kg |
| | Rabbit | 0.32 g/kg |
| | Rat | 560 mg/kg |
| DIETHYLENE GLYCOL (CAS 111-46-6) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | 11890 mg/kg |

| Components | Species | Test Results |
|-------------|------------|--------------|
| <i>Oral</i> | | |
| LD50 | Cat | 3300 mg/kg |
| | Dog | 9000 mg/kg |
| | Guinea pig | 8700 mg/kg |
| | Mouse | 13.3 g/kg |
| | Rabbit | 26.9 g/kg |
| | Rat | 12565 mg/kg |

SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM (CAS 64742-52-5)

Acute

Dermal

| | | |
|------|--------|--------------|
| LD50 | Rabbit | > 5000 mg/kg |
|------|--------|--------------|

Inhalation

| | | |
|------|-----|-------------------|
| LC50 | Rat | 5.7 mg/l, 4 hours |
|------|-----|-------------------|

Oral

| | | |
|------|-----|--------------|
| LD50 | Rat | > 5000 mg/kg |
|------|-----|--------------|

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation. Defatting, drying and cracking of skin.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

| | |
|--------------------------------|---|
| 2-BUTOXYETHANOL (CAS 111-76-2) | 3 Not classifiable as to carcinogenicity to humans. |
|--------------------------------|---|

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment. Toxic to aquatic life with long lasting effects.

| Components | Species | Test Results |
|----------------------------------|---------|--|
| 2-BUTOXYETHANOL (CAS 111-76-2) | | |
| Aquatic | | |
| Fish | LC50 | Inland silverside (Menidia beryllina) 1250 mg/l, 96 hours |
| DIETHYLENE GLYCOL (CAS 111-46-6) | | |
| Aquatic | | |
| Fish | LC50 | Western mosquitofish (Gambusia affinis) > 32000 mg/l, 96 hours |

| Components | | Species | Test Results |
|---|------|---------|----------------------|
| SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM (CAS 64742-52-5) | | | |
| Aquatic | | | |
| Acute | | | |
| Fish | LC50 | Fish | > 100 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

2-BUTOXYETHANOL 0.83

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

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|--|--|
| Disposal instructions | Consult authorities before disposal. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers. |

14. Transport information

| | |
|--|---|
| DOT | |
| UN number | Not Regulated |
| UN proper shipping name | Not Regulated |
| Transport hazard class(es) | |
| Class | Not Regulated |
| Subsidiary risk | |
| Label(s) | |
| Packing group | |
| Environmental hazards | |
| Marine pollutant | Not Regulated (See below) |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | |
| Packaging exceptions | |
| Packaging non bulk | |
| Packaging bulk | |
| Supplemental Information: 49CFR 171.4 excludes "non-bulk" packages (119 gallons or less) from Marine Pollutant Requirements unless all or part of the shipment is by vessel. | |
| IATA | |
| UN number | Not regulated in small packages |
| UN proper shipping name | |
| Transport hazard class(es) | |
| Class | |
| Subsidiary risk | |
| Packing group | |
| Environmental hazards | |
| ERG Code | |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

Other information

Passenger and cargo aircraft Allowed.
Cargo aircraft only Allowed.

IMDG

UN number Not regulated (in small containers)
UN proper shipping name

Transport hazard class(es)

Class

Subsidiary risk

Packing group

Environmental hazards

Marine pollutant

EmS

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

General information

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. It may be reportable under the provisions of SARA Sections 311 and 312 if specific threshold criteria are met or exceeded.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986(SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)
 Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

2-BUTOXYETHANOL (CAS 111-76-2)

US. New Jersey Worker and Community Right-to-Know Act

2-BUTOXYETHANOL (CAS 111-76-2)

US. Pennsylvania Worker and Community Right-to-Know Law

2-BUTOXYETHANOL (CAS 111-76-2)

DIETHYLENE GLYCOL (CAS 111-46-6)

US. Rhode Island RTK

Not regulated.

California South Coast Air Quality Management District (SCAQMD) Rule 1144 (VOC Emissions) This product is subject to SCAQMD Rule 1144; it is compliant and may be sold and used in the SCAQMD. The VOC content of the product is 105 g/L, measured by ASTM Method E-1868-10. This product has a specified use dilution VOC limit of 75 g/L, the maximum dilution concentration is 71 % to maintain compliance.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory or exempt (yes/no)* |
|-----------------------------|--|----------------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last revision

Issue date 02-18-2017

Revision date

Version # 01

Further information Not available.

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information OSHA Hazard Communication Standard 29 CFR 1910.1200 and GHS