



## SAFETY DATA SHEET

ORB102C

According to Regulation (EU) No 453/2010

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. Product identifier

Product name ORB102C™

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses For use in the oil and gas industry as a de-oiler / cleaning agent.

#### 1.3. Details of the supplier of the safety data sheet

Supplier Orbijet, Inc.  
15200 Middlebrook Drive; Suite E  
Houston, Texas 77058 USA  
Tel: +1 281.218.9400  
Fax: +1 713.513.5883  
Web: www.orbijet.com

#### 1.4. Emergency telephone number

+1 281.218.9400

Monday - Friday 09:00 - 17:00 CST

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

Classification (1999/45/EEC) Xn;R22. Xi;R37/38, R41. R43. N;R51/53. R67.

Human health

Harmful if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes. May cause sensitisation by skin contact. Vapors may cause drowsiness and dizziness.

Environment

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 2.2. Label elements

Contains CITRUS TERPENES

Detergent Labelling

15 - < 30%

anionic surfactants

Contains

CITRUS TERPENES

Labelling



Harmful



Dangerous for the environment

Risk Phrases

R22

Harmful if swallowed.

R37/38

Irritating to respiratory system and skin.

R41

Risk of serious damage to eyes.

R43

May cause sensitisation by skin contact.

R51/53

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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|                |        |   |
|----------------|--------|---|
| Safety Phrases | R67    | Vapors may cause drowsiness and dizziness.  |
|                | S24/25 | Avoid contact with skin and eyes.   |
|                | S26    | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
|                | S37/39 | Wear suitable gloves and eye/face protection.   |
|                | S51    | Use only in well-ventilated areas.  |
|                | S57    | Use appropriate containment to avoid environmental contamination.                             |
|                | S60    | This material and its container must be disposed of as hazardous waste.                       |

## 2.3. Other hazards

This product does not contain any PBT or vPvB substances.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2. Mixtures

|  |  |        |
|--|--|--------|
| BUTANOL-norm   |  | 10-30% |
| CAS-No.: 71-36-3   | EC No.: 200-751-6  |        |
| Classification (EC 1272/2008)<br>Flam. Liq. 3 - H226<br>Acute Tox. 4 - H302<br>Skin Irrit. 2 - H315<br>Eye Dam. 1 - H318<br>STOT SE 3 - H335<br>STOT SE 3 - H336 | Classification (67/548/EEC)<br>R10<br>Xn;R22<br>Xi;R37/38,R41<br>R67 |        |
| ANIONIC SURFACTANT   |  | 10-30% |
| CAS-No.: Proprietary   |  |        |
| Classification (EC 1272/2008)<br>Acute Tox. 4 - H302<br>Skin Irrit. 2 - H315<br>Eye Dam. 1 - H318  | Classification (67/548/EEC)<br>Xn;R22.<br>Xi;R38,R41.                |        |
| CITRUS TERPENES  |  | < 25%  |
| CAS-No.: 5989-27-5   | EC No.: 227-813-5  |        |
| Classification (EC 1272/2008)<br>Flam. Liq. 3 - H226<br>Skin Irrit. 2 - H315<br>Skin Sens. 1 - H317<br>Aquatic Acute 1 - H400<br>Aquatic Chronic 1 - H410        | Classification (67/548/EEC)<br>R10<br>R43<br>Xi;R38<br>N;R50/53      |        |

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

#### Inhalation

Move the exposed person to fresh air at once. Provide rest, warmth and fresh air. Get medical attention if any discomfort continues.

#### Ingestion

Remove victim immediately from source of exposure. Rinse mouth thoroughly. Drink plenty of water. Do not induce vomiting. Provide rest, warmth and fresh air. Get medical attention immediately!

**Skin contact**

Remove affected person from source of contamination. Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. Get medical attention promptly if symptoms occur after washing.

**Eye contact**

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed****Inhalation**

Irritation of nose, throat and airway.

**Ingestion**

May cause discomfort if swallowed. May cause stomach pain or vomiting.

**Skin contact**

Skin irritation. Allergic rash.

**Eye contact**

May cause severe irritation to eyes. May cause blurred vision and serious eye damage.

**4.3. Indication of any immediate medical attention and special treatment needed**

The severity of the symptoms described will vary dependent of the concentration and the length of exposure.

**SECTION 5: FIREFIGHTING MEASURES****5.1. Extinguishing media****Extinguishing media**

Use: Water spray. Alcohol resistant foam. Foam, carbon dioxide or dry powder.

**Unsuitable extinguishing media**

Do not use water jet as an extinguisher, as this will spread the fire.

**5.2. Special hazards arising from the substance or mixture****Hazardous combustion products**

Fire creates: Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Sulphurous gases (SO<sub>x</sub>).

**Unusual Fire & Explosion Hazards**

No unusual fire or explosion hazards noted.

**Specific hazards**

Fire creates: Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Sulphurous gases (SO<sub>x</sub>).

**5.3. Advice for firefighters****Special Fire Fighting Procedures**

Keep run-off water out of sewers and water sources. Dike for water control.

**Protective equipment for fire-fighters**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective clothing as described in Section 8 of this safety data sheet.

**6.2. Environmental precautions**

Do not discharge into drains, water courses or onto the ground.

**6.3. Methods and material for containment and cleaning up**

Stop leak if possible without risk. DO NOT touch spilled material! Runoff or release to sewer, waterway or ground is forbidden. Absorb in vermiculite, dry sand or earth and place into containers. Flush area clean with lots of water. Be aware of potential for surfaces to become slippery. Do not let washing down water contaminate ponds or waterways. Wash thoroughly after dealing with a spillage.

**6.4. Reference to other sections**

Wear protective clothing as described in Section 8 of this safety data sheet. See section 11 for additional information on health hazards.

For waste disposal, see section 13.

**SECTION 7: HANDLING AND STORAGE****7.1. Precautions for safe handling**

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Read and follow manufacturer's recommendations. Provide good ventilation. Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Avoid inhalation of vapors and spray mists. Persons susceptible to allergic reactions should not handle this product.

## 7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Store in tightly closed original container in a dry, cool and well-ventilated place.

## 7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

| Name         | STD | TWA - 8 Hrs |  | STEL - 15 Min |           | Notes |
|--------------|-----|-------------|--|---------------|-----------|-------|
| BUTANOL-norm | WEL |             |  | 50 ppm        | 154 mg/m3 | Sk    |

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through skin.

### 8.2. Exposure controls

Engineering measures

Well-ventilated area.

Respiratory equipment

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit.

Hand protection

Use protective gloves made of: Impermeable material. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection

Wear tight-fitting goggles or face shield.

Hygiene measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap & water if skin becomes contaminated. When using do not eat, drink or smoke. Wash hands after handling.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

|  |                       |
|--|-----------------------|
| Appearance                                   | Clear liquid.         |
| Color  | Colorless. to Yellow. |
| Odor   | Orange. Citrus.       |
| Solubility                                   | Soluble in sea water. |
| Initial boiling point and boiling range (°C) |                       |
| Not determined.                              |                       |
| Melting point (°C)                           |                       |
| Not determined.                              |                       |
| Relative density                             | 0.95 - 1.00 @ 20°C    |
| Vapor density (air=1) Not determined.        |                       |
| Vapor pressure                               |                       |
| Not determined.                              |                       |
| Evaporation rate                             |                       |
| Not determined.                              |                       |
| pH-Value, Conc. Solution                     | 8 - 11                |
| Viscosity                                    |                       |
| Not determined.                              |                       |
| Decomposition temperature (°C)               |                       |
| Not determined.                              |                       |
| Odor Threshold, Lower                        |                       |
| Not determined.                              |                       |

Odor Threshold, Upper Not determined.

Flash point (°C)

40°C - 45°C

Non-flammable (according to the Approved Test Method 32.5.2 Test L2 - United Nations Recommendations on the Transport of Dangerous Goods Manual of Tests and Criteria.)

Auto Ignition Temperature (°C)

Not determined.

Flammability Limit - Lower(%)

Not determined.

Flammability Limit - Upper(%)

Not determined.

Partition Coefficient

(N-Octanol/Water)

Not determined.

Explosive properties

Not considered to be explosive.

Oxidizing properties

Does not meet the criteria for oxidizing.

## 9.2. Other information

Not determined.

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

Reaction with: Strong oxidizing agents. Strong mineral acids.

### 10.2. Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3. Possibility of hazardous reactions

Hazardous Polymerization

Not relevant

### 10.4. Conditions to avoid

Avoid heat. Avoid contact with strong oxidizers. Strong mineral acids.

### 10.5. Incompatible materials

Materials To Avoid

Strong oxidizing substances. Strong mineral acids.

### 10.6. Hazardous decomposition products

None under normal conditions.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Acute toxicity:

Acute Toxicity (Oral LD50)

No information available.

Harmful if swallowed.

Acute Toxicity (Dermal LD50)

No information available.

Based on available data the classification criteria are not met.

Acute Toxicity (Inhalation LC50)

No information available.

Based on available data the classification criteria are not met.

#### Skin Corrosion/Irritation:

Irritating.

#### Serious eye damage/irritation:

Risk of serious damage to eyes.

Respiratory or skin sensitisation:

Respiratory sensitisation

No information available.

Based on available data the classification criteria are not met.

Skin sensitisation

No information available.

May cause sensitisation by skin contact.

Germ cell mutagenicity:

Genotoxicity - In Vitro

No information available.

Based on available data the classification criteria are not met.

Carcinogenicity:

Carcinogenicity

No information available.

Based on available data the classification criteria are not met.

Reproductive Toxicity:

Reproductive Toxicity - Fertility

No information available.

Based on available data the classification criteria are not met.

Irritating to respiratory system. Vapors may cause drowsiness and dizziness. Not

classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard:

Not anticipated to present an aspiration hazard based on chemical structure.

Toxicological information on ingredients.

BUTANOL-norm (CAS: 71-36-3)

Acute toxicity:

Acute Toxicity (Oral LD50)

2.83 mL/kg Rat

REACH dossier information

Skin Corrosion/Irritation:

Irritating.

Serious eye damage/irritation:

May cause severe irritation to eyes. Risk of serious damage to eyes.

Notes (STOT-SE)

Vapors may cause drowsiness and dizziness.

CITRUS TERPENES (CAS: 5989-27-5)

Acute toxicity:

Acute Toxicity (Oral LD50)

> 2000 mg/kg Rat

REACH dossier information

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Acute toxicity:

Acute Toxicity (Oral LD50)

1200 mg/kg Rat

REACH dossier information

**SECTION 12: ECOLOGICAL INFORMATION**

## Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.1. ToxicityEcological information on ingredients.BUTANOL-norm (CAS: 71-36-3)

## Acute Toxicity - Fish

LC50 96 hours 1376 mg/l Pimephales promelas (Fat-head Minnow)

REACH dossier information

NOEC 96 hours 519 mg/l Pimephales promelas (Fat-head Minnow)

REACH dossier information

Acute Toxicity - Aquatic Invertebrates

EC50 48 hours 1328 mg/l Daphnia magna

REACH dossier information

NOEC 48 hours 415 mg/l Daphnia magna

REACH dossier information

Acute Toxicity - Aquatic Plants

EC50 96 hours 225 mg/l Selenastrum capricornutum

REACH dossier information

CITRUS TERPENES (CAS: 5989-27-5)

## Acute Toxicity - Fish

LC50 96 hours 720 µg/L Pimephales promelas (Fat-head Minnow)

REACH dossier information

Acute Toxicity - Aquatic Invertebrates

EC50 48 hours 0.36 mg/l Daphnia magna

REACH dossier information

NOEC 48 hours 0.074 mg/l Daphnia magna

REACH dossier information

Acute Toxicity - Aquatic Plants

EC50 72 hours ~ 8 mg/l Desmodemus subspicatus

REACH dossier information

NOEC 72 hours 2.62 mg/l Desmodemus subspicatus

REACH dossier information

ANIONIC SURFACTANT

## Acute Toxicity - Fish

LC50 96 hours 29 mg/l Pimephales promelas (Fat-head Minnow) REACH dossier information

Acute Toxicity - Aquatic Invertebrates

LC50 48 hours 5.55 mg/l Ceriodaphnia dubia REACH dossier information

Acute Toxicity - Aquatic Plants

EC50 72 hours 53 mg/l Desmodemus subspicatus REACH dossier information

NOEC 72 hours 30 mg/l Desmodemus subspicatus REACH dossier information

## 12.2.Persistence and degradability

### Degradability

The product is readily biodegradable.

## 12.3.Bioaccumulative potential

### Bioaccumulative potential

No data available on bioaccumulation. Partition coefficient

Not determined.

## 12.4.Mobility in soil

### Mobility:

The product is soluble in water.

## 12.5.Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

## 12.6.Other adverse effects

Not determined.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. Recover and reclaim or recycle, if practical.

## SECTION 14: TRANSPORT INFORMATION

### 14.1. UN number

|                      |      |
|----------------------|------|
| UN No. (ADR/RID/ADN) | 3082 |
| UN No. (IMDG)        | 3082 |
| UN No. (ICAO)        | 3082 |

### 14.2. UN proper shipping name

Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CITRUS TERPENES)

### 14.3. Transport hazard class(es)

|                     |   |
|---------------------|---|
| ADR/RID/ADN Class   | 9   |
| ADR/RID/ADN Class   | Class 9: Miscellaneous dangerous substances and articles. |
| ADR Label No.       | 9   |
| IMDG Class          | 9   |
| ICAO Class/Division | 9   |
| Transport Labels    |   |



14.4.Packing group

|                           |     |
|---------------------------|-----|
| ADR/RID/ADN Packing group | III |
| IMDG Packing group        | III |
| ICAO Packing group        | III |

14.5.Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

14.6.Special precautions for user

|                         |          |
|-------------------------|----------|
| EMS                     | F-A, S-F |
| Emergency Action Code   | •3Z      |
| Hazard No. (ADR)        | 90       |
| Tunnel Restriction Code | (E)      |

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not relevant

**SECTION 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Approved Code Of Practice

Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes

Workplace Exposure Limits EH40.

EU Legislation

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

**SECTION 16: OTHER INFORMATION**

Revision Comments

Product name change. Telephone number changed. Amendment to physical data in section 9.

Revision Date 10-2013

Revision 8

Supersedes date 03-2013

Risk Phrases In Full

|        |  |
|--------|--|
| R10    | Flammable.   |
| R22    | Harmful if swallowed.  |
| R37/38 | Irritating to respiratory system and skin.   |
| R38    | Irritating to skin.  |
| R43    | May cause sensitisation by skin contact.   |
| R41    | Risk of serious damage to eyes.  |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Vapors |
| R67    | may cause drowsiness and dizziness.  |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.   |

Hazard Statements In Full

|      |   |
|------|---|
| H318 | Causes serious eye damage.                            |
| H315 | Causes skin irritation.                               |
| H226 | Flammable liquid and vapor.                           |
| H302 | Harmful if swallowed.                                 |
| H317 | May cause an allergic skin reaction.                  |
| H336 | May cause drowsiness or dizziness.                    |
| H335 | May cause respiratory irritation.                     |
| H411 | Toxic to aquatic life with long lasting effects.      |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H400 | Very toxic to aquatic life.                           |