

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 01/04/2019

Reviewed on 01/04/2019

1 Identification

- **Product Identifier**
- **Trade Name: R600 Mixed**
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** No further relevant information available.
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
EcoGreen Industries, LLC
PO Box 1308
Anderson, CA 96007
Phone: (530) 378-4443
Fax: (888) 612-3207
- **Emergency telephone number:** Chemtrec 800-424-9300

* 2 Hazard(s) Identification

- **Classification of the substance or mixture:**



Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

- **Label elements:**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS02

- **Signal word:** Danger
- **Hazard statements:**
H225 Highly flammable liquid and vapor.
- **Precautionary statements:**

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.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378	In case of fire: Use for extinction: CO2, powder or water spray.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Unknown acute toxicity:**
This value refers to knowledge of known, established toxicological or ecotoxicological values.
40 % of the mixture consists of component(s) of unknown toxicity.

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- **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	3	Fire = 3
REACTIVITY	0	Physical Hazard = 0

- **Hazard(s) not otherwise classified (HNOC):** None known

3 Composition/Information on Ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with non-hazardous additions.

- **Dangerous Components:**

CAS: 106-97-8 RTECS: EJ 4200000	Butane	⚠ Flam. Gas 1, H220; ⚠ Press. Gas, H280	40-60%
CAS: 74-98-6 RTECS: TX 2275000	Propane	⚠ Flam. Gas 1, H220; ⚠ Press. Gas, H280	25-50%

- **Additional information:**

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

4 First-Aid Measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** If skin irritation occurs, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water.
If eye irritation occurs, consult a doctor.
- **After swallowing:** If swallowed and symptoms occur, consult a doctor.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed:**
No further relevant information available.

5 Fire-Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters**
- **Special protective equipment for firefighters:**
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

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6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Prevent seepage into sewage system, workpits and cellars.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Dispose of the collected material according to regulations.
- **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

106-97-8	Butane	5500* ppm
74-98-6	Propane	5500* ppm

· **PAC-2:**

106-97-8	Butane	17000** ppm
74-98-6	Propane	17000** ppm

· **PAC-3:**

106-97-8	Butane	53000*** ppm
74-98-6	Propane	33000*** ppm

7 Handling and Storage

- **Handling**
- **Precautions for safe handling:** Open and handle receptacle with care.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Do not gas tight seal receptacle.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **Specific end use(s):** No further relevant information available.

8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.

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· **Control parameters:**

· **Components with occupational exposure limits:**

106-97-8 Butane

REL	Long-term value: 1900 mg/m ³ , 800 ppm
TLV (EX)	Short-term value: 2370 mg/m ³ , 1000 ppm

74-98-6 Propane

REL	Long-term value: 1800 mg/m ³ , 1000 ppm
TLV	Long-term value: 1800 mg/m ³ , 1000 ppm
TLV	refer to Appendix F in TLVs&BEIs book; D, EX

· **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

· **Exposure controls:**

· **Personal protective equipment**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Wash hands before breaks and at the end of work.

· **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.

· **Protection of hands:** Not required.

· **Material of gloves:** Not applicable.

· **Penetration time of glove material:** Not applicable.

· **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Colorless
Odour:	Petroleum-like
Odor threshold:	Not determined.
pH-value:	Not determined.

· **Change in condition**

Melting point/Melting range:	-138 °C (-216.4 °F)
Boiling point/Boiling range:	≥-44.5 °C (112.1 °F)

· **Flash point:** -60 °C (-76 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** ≥365 °C (≥689 °F)

· **Decomposition temperature:** Not determined.

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- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- **Explosion limits:**
 - Lower:** 1.5 Vol %
 - Upper:** 8.5 Vol %
- **Vapor pressure @ 20 °C (68 °F):** ≤8,300 hPa (≤6,225.5 mm Hg)
- **Density @ 20 °C (68 °F):** 0.0024 g/cm³ (0.02 lbs/gal)
- **Relative density:** Not determined.
- **Vapor density:** Not determined.
- **Evaporation rate:** Not determined.
- **Solubility in / Miscibility with:**
 - Water @ 20 °C (68 °F):** 0.061 g/l
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 100.0 %
 - VOC content:** 60.00 %
2.7 g/l / 0.02 lb/gal
- **Solids content:** 0.0 %
- **Other information:** No further relevant information available.

10 Stability and Reactivity

- **Reactivity:** The product is stable under normal conditions
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** Heat, flame and ignition sources.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**

LD/LC50 values that are relevant for classification:**106-97-8 Butane**

Inhalative LC50/4 h 658,000 mg/l (Rat)

- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** No irritating effect.

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· **Additional toxicological information:**

· **Carcinogenic categories:**

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

12 Ecological Information

· **Toxicity:**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability:** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential:** No further relevant information available.

· **Mobility in soil:** No further relevant information available.

· **Additional ecological information:**

· **General notes:** Generally not hazardous for water.

· **Results of PBT and vPvB assessment:**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects:** No further relevant information available.

13 Disposal Considerations

· **Waste treatment methods**

· **Recommendation:**

Observe all federal, state and local environmental regulations when disposing of this material.

· **Uncleaned packaging**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport Information

· **UN-Number:**

· **DOT, ADR/ADN, IMDG, IATA**

UN1011

· **UN proper shipping name:**

· **DOT**

Butane

· **ADR/ADN**

UN1011 BUTANE

· **IMDG, IATA**

BUTANE

· **Transport hazard class(es):**

· **DOT, IMDG, IATA**



· **Class:**

2.1

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· **Label:** 2.1

· **ADR/ADN**



· **Class:** 2.1
 · **Packing group:** II
 · **DOT, ADR/ADN, IMDG, IATA** II
 · **Environmental hazards:** Not applicable.
 · **Special precautions for user:** Not applicable.
 · **EMS Number:** F-D,S-U
 · **Stowage Category** E
 · **Stowage Code** SW2 Clear of living quarters.
 · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations:** On passenger aircraft/rail: Forbidden
 On cargo aircraft only: 150 kg

· **ADR/ADN**

· **Excepted quantities (EQ):** Code: E0
 Not permitted as Excepted Quantity

· **IMDG**

· **Limited quantities (LQ):** 0
 · **Excepted quantities (EQ):** Code: E0
 Not permitted as Excepted Quantity
 · **UN "Model Regulation":** UN 1011 BUTANE, 2.1, II

* 15 Regulatory Information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
 · **SARA (Superfund Amendments and Reauthorization):**

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed or exempt from listing.

· **California Proposition 65:**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

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· Chemicals known to cause reproductive toxicity for males:		
None of the ingredients are listed.		
· Chemicals known to cause developmental toxicity:		
None of the ingredients are listed.		
· New Jersey Right-to-Know List:		
All ingredients are listed.		
· New Jersey Special Hazardous Substance List:		
106-97-8	Butane	F4
74-98-6	Propane	F4
· Pennsylvania Right-to-Know List:		
All ingredients are listed.		
· Pennsylvania Special Hazardous Substance List:		
None of the ingredients are listed.		
· Carcinogenic categories:		
· EPA (Environmental Protection Agency):		
None of the ingredients are listed.		
· TLV (Threshold Limit Value established by ACGIH):		
None of the ingredients are listed.		
· NIOSH-Ca (National Institute for Occupational Safety and Health):		
None of the ingredients are listed.		

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms:**



GHS02

· **Signal word:** Danger

· **Hazard statements:**

H225 Highly flammable liquid and vapor.

· **Precautionary statements:**

- | | |
|----------------|-----------------------------------------------------------------------------------------------------|
| 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. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P303+P361+P353 | If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P370+P378 | In case of fire: Use for extinction: CO2, powder or water spray. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |

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P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

None of the ingredients are listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Date of preparation / last revision:** 01/04/2019 / 3

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety & Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Gas 1: Flammable gases – Category 1
Press. Gas: Gases under pressure – Compressed gas
Flam. Liq. 2: Flammable liquids – Category 2

· *** Data compared to the previous version altered.**

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