

MAXSUN CO., LTD.

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MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING	
Manufacturer : DAE RYUK CAN CO., LTD. 733-25 Yeoksam-dong, Kangnam-ku, Seoul, Korea	Regular Telephone No. (02)6003-0600 Emergency Telephone No. (02)6003-0600
Product Trade Name or Brand Name: Butank CRV	Class 2.1 Flammable gas UN2037
Other product description or identification: For use only in portable gas appliances	Proper Shipping Name: AEROSOLS
Creation Date: 2012.04.	Revision Date:2012.06

2. Hazards identification	
Hazards designation	F+ Extremely flammable
Information pertaining to particular dangers for man and environment	R 12 Extremely flammable

3. Composition/information on ingredients				
Name of chemical	Trade names/Synonyms	CAS Number	EINECS Number	Approximate Weight %
propane	n-Propane, Propylhydride	74-98-6	200-827-9	4~7wt%
iso-butane	2-Methyl Propane	75-28-5	200-857-2	25~30wt%
n-butane	Butane, Liquefied Petroleum Gas	106-97-8	203-448-7	60~70wt%
The others	-	-	-	Below 2%

4. FIRST AID MEASURES
Inhalation: Remove from exposure immediately. Use a bag valve mask or similar devise to perform artificial respiration(rescue breathing) if needed. Get medical attention.
Skin Contact: Wash if needed. If frostbite, freezing, or cryogenic burns occur, warm affected area in warm water. If this is not available, gently wrap affected parts in blankets. Allow circulation to return naturally. Get medical attention immediately.
Eye Contact: Wash eyes immediately with large amount of water, occasionally lifting upper and lower lids, until no evidence of chemical remains. Continue irrigating with normal saline until ready to transport to hospital. Cover with sterile bandages. Get medical attention immediately.
Ingestion: If vomiting occurs, keep head lower than hips to help prevent aspiration. Get medical attention, if needed.

5. FIRE FIGHTING MEASURES
Extinguishing Media: Water Fog, Standard form, Special Alcohol-stable foam, Carbon Dioxide-CO ₂ , Dry Chemical
Special Firefighting Procedures: Use Equipment or Shielding required to protect personnel against bursting, rupturing or venting containers. Do not heat container. Store below 110°F in a Ventilated area.
Unusual Fire and Explosion Hazards: At elevated temperatures(over 54 °C/130°F) CRV of containers will be operated, but rapidly excess heating or fire will be caused burst or rupture of a container. Danger: <i>Extremely Flammable</i> . Do not use near fire or flame.

6. ACCIDENTAL RELEASE MEASURES

Person-related safety precautions: Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection: Do not allow product to reach sewage system or any water course. Inform respective authorities in case of seepage into water course or sewage system.

Measures for cleaning/collecting: Ensure adequate ventilation. Do not flush with water or aqueous cleansing agents.

7. HANDLING AND STORAGE

Handling.

Information for safe handling:

Keep away from heat and direct sunlight.

Ensure good ventilation/exhaustion at the workplace.

Use only in well ventilated areas.

Information about fire-and explosion protection:

Do not spray onto a naked flame or any incandescent material.

Keep ignition sources away-Do not smoke.

Storage:

Requirement to be met by storerooms and receptacles:

Store in a cool location.

Observe official regulations on storing packagings with pressurized containers.

Further information about storage conditions: Protect from heat and direct sunlight.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits:

iso-Butane:

800ppm(1900mg/m³) ACGIH TWA

800ppm(1900mg/m³) NIOSH recommended TWA 10 hour(s)

Liquified Petroleum Gas(LPG):

1000ppm(1800mg/m³) OSHA TWA

1000ppm(1800mg/m³) ACGIH TWA

1000ppm(1800mg/m³) NIOSH recommended TWA

n-Butane:

800ppm(1800mg/m³) OSHA TWA(vacated by 58 FR 35338, June 30, 1993)

800ppm(1800mg/m³) ACGIH TWA

800ppm(1800mg/m³) NIOSH recommended TWA

Ventilation: Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

Eye Protection: For the gas: Eye protection not required, but recommended.

For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in

Clothing: For the gas: Protective clothing is not required.

For the liquid: Wear appropriate protective, cold insulating clothing.

Gloves: Wear insulated gloves.

Respirator: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

For Unknown Concentrations or Immediately Dangerous to life or health-any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

9. PHYSICAL AND CHEMICAL PROPERTIES			
Flash Point Minimum	-60°C (-76°F)	Flammable Limits in Air: (vol.%@21°C/70°F)	LEL-UEL=1.9 - 8.5
Autoignision:	761°F(405°C)		
95% Boiling Point: @101.3Kpa(760mmhg)	below 2°C(35.6°F)	Specific Gravity/Density (vs. Water @4°C/39.2°F)	0.60 mg/m ³
Vapor Pressure Maximum: @21°C(70°F)	2.8kg/cm ² (39.8Psig)	Percent Volatiles (Ambient/ 21°C/70°F)	not applicable
Vapor Density vs. Air=1 @15-32°C(60-90°F)	Heavier > 1.0	Evaporation Rate: (vs. n-Butyl Acetate=1)	not applicable
Solubility in Deionized Water: Negligible<0.1% by wt% (Weight% @ 10°C/50°F)			
Appearance and Odor: Clear & odorant Added			

10. STABILITY AND REACTIVITY
Chemical Stability: Sable at normal temperatures and pressure.
Incompatibility: Oxidizing materials
Hazardous Decomposition Products(From burning, welding, oxidation, high temperature): Oxides of carbon
Hazardous Polymerization: Will not polymerize
Conditions to Avoid: Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Containers may rupture or exposed to heat

11. TOXICOLOGICAL INFORMATION
<p>iso-Butane:</p> <p>Toxicity Data: 57pph/15 minute(s) inhalation-rat LC50</p> <p>Local Effects: Irritant: inhalation</p> <p>Acute Toxicity Level: Relatively Non-toxic: inhalation</p> <p>Target Organs: central nervous system</p> <p>Additional Data: Stimulants such epinephrine may induce ventricular fibrillation.</p>
<p>n-Butane:</p> <p>Toxicity Data: 658mg/m³/4 hour(s) inhalation-rat LC50</p> <p>Acute Toxicity Level: Relatively Non-toxic: inhalation</p> <p>Target Organs: central nervous system</p> <p>Additional Data: Stimulants such as epinephrine may induce ventricular fibrillation</p>

12. ECOLOGICAL INFORMATION
Not available

13. DISPOSAL CONSIDERATIONS

Recommendation: Must not be disposed together with household garbage. Do not allow product to reach sewage system.

European waste catalogue : Packaging containing residues of or contaminated by dangerous substances.

Recommendation: Dispose in accordance with all applicable regulations.

U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

14. TRANSPORT INFORMATION

* Maritime transport IMDG

- IMDG Class: 2.1
- UN Number : 2037
- Packaging Group : -
- Marine pollutant : No
- Proper shipping name: AEROSOLS

15. REGULATORY INFORMATION

Labelling according to EC guidelines: The product has been classified and marked in accordance with EC Directives/Ordinance on Hazardous Materials.

Code letter and hazard designation of product: F+ Extremely flammable.

Risk phrases: 12 Extremely flammable.

10 Flammable.

11 Highly flammable

12 Extremely flammable

18 In use, may form flammable/explosive vapour-air mixture

Safety phrases: 2 Keep out of the reach of children.

3 Keep in a cool place.

33 Take precautionary measures against static discharges.

46 If swallowed, seek medical advice immediately and show this container or label.

51 Use only in well-ventilated areas.

16. OTHER INFORMATION

Precautions to be taken in Handling and Storage: Keep out of reach of Children. Do not expose to heat or store at temperature Above 110 °F keep contents at temperature above 32°F

Other Precautions:

Use in well ventilated area.

Special Precautionary Statements: Please read and follow the directions on the product label. they are your best guide to using this product in the most effective way and give the necessary safety precautions to protect your health.