

# NI - 1-Butene, (9 Component Range)

## Safety Data Sheet P-18-20667

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

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### SECTION 1: Product and company identification

#### 1.1. Product identifier

Product form : Mixture  
 Name : NI - 1-Butene, (9 Component Range)  
 Other means of identification : Mixture of 1-Butene, 2-methyl-1-Butene, Butane, Hexane, Isobutane, Isobutylene, Isopentane, trans-2-Butene and Nitrogen

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

Use of the substance/mixture : Industrial use. Use as directed.

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

Praxair, Inc.  
 10 Riverview Drive  
 Danbury, CT 06810-6268 - USA  
 T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146  
[www.praxair.com](http://www.praxair.com)

#### 1.4. Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24 hr/day 7 days/week  
 — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887  
 (collect calls accepted, Contract 17729)

### SECTION 2: Hazard identification

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

##### GHS-US classification

|                 |      |
|-----------------|------|
| Flam. Gas 1     | H220 |
| Compressed gas  | H280 |
| Aquatic Acute 3 | H402 |

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

DANGER

Hazard statements (GHS-US) :

H220 - **EXTREMELY FLAMMABLE GAS**  
 H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED  
 H402 - HARMFUL TO AQUATIC LIFE  
 OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION  
 CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR

Precautionary statements (GHS-US) :

P210 - Keep away from Heat/Open flames/Sparks/Hot surfaces. - No smoking  
 P273 - Avoid release to the environment  
 P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely  
 P381 - Eliminate all ignition sources if safe to do so  
 P501 - Dispose of contents/container in accordance with container Supplier/owner instructions  
 CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)  
 P271+P403 - Use and store only outdoors or in a well-ventilated place

#### 2.3. Other hazards

Other hazards not contributing to the : Asphyxiant in high concentrations.

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classification

### 2.4. Unknown acute toxicity (GHS US)

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name              | Product identifier | %           |
|-------------------|--------------------|-------------|
| Nitrogen          | (CAS No) 7727-37-9 | 93.7 - 95.9 |
| Isobutylene       | (CAS No) 115-11-7  | 0.8 - 1.2   |
| Isobutane         | (CAS No) 75-28-5   | 0.8 - 1.2   |
| Butane            | (CAS No) 106-97-8  | 0.8 - 1.2   |
| Isopentane        | (CAS No) 78-78-4   | 0.4 - 0.6   |
| 2-Methyl-1-butene | (CAS No) 563-46-2  | 0.4 - 0.6   |
| trans-2-Butene    | (CAS No) 624-64-6  | 0.4 - 0.6   |
| 1-Butene          | (CAS No) 106-98-9  | 0.4 - 0.6   |
| n-Hexane          | (CAS No) 110-54-3  | 0.1 - 0.3   |

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Call a physician.
- First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

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

None.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide, Dry chemical, Water spray or fog. Use extinguishing media appropriate for surrounding fire.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : **EXTREMELY FLAMMABLE GAS.**
- Explosion hazard : **EXTREMELY FLAMMABLE GAS.** Forms explosive mixtures with air and oxidizing agents.
- Reactivity : No reactivity hazard other than the effects described in sub-sections below.

### 5.3. Advice for firefighters

- Firefighting instructions : Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards (e.g. 29 CFR 1910 Subpart L—Fire Protection in the U.S.).
- Protection during firefighting : Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen. **DANGER! FLAMMABLE, HIGH PRESSURE GAS..**
- Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
- Other information : Containers are equipped with a pressure relief device. (Exceptions may exist where authorized.).

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : If venting or leaking gas catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device.

##### 6.1.1. For non-emergency personnel

No additional information available

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

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

No additional information available

#### 6.4. Reference to other sections

See also sections 8 and 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

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

Storage conditions : Store only where temperature will not exceed 125°F (52°C). Post “No Smoking/No Open Flames” signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g, NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16

Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods

**OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE:** When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

### 7.3. Specific end use(s)

None.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| Isopentane (78-78-4)         |                                     |                        |
|------------------------------|-------------------------------------|------------------------|
| ACGIH                        | ACGIH TLV-TWA (ppm)                 | 1000 ppm               |
| USA OSHA                     | Not established                     |                        |
| n-Hexane (110-54-3)          |                                     |                        |
| ACGIH                        | ACGIH TLV-TWA (ppm)                 | 50 ppm                 |
| USA OSHA                     | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 1800 mg/m <sup>3</sup> |
| USA OSHA                     | OSHA PEL (TWA) (ppm)                | 500 ppm                |
| 2-Methyl-1-butene (563-46-2) |                                     |                        |
| trans-2-Butene (624-64-6)    |                                     |                        |
| ACGIH                        | ACGIH TLV-TWA (ppm)                 | 250 ppm                |
| 1-Butene (106-98-9)          |                                     |                        |
| ACGIH                        | ACGIH TLV-TWA (ppm)                 | 250 ppm                |
| USA OSHA                     | Not established                     |                        |
| Isobutylene (115-11-7)       |                                     |                        |
| ACGIH                        | ACGIH TLV-TWA (ppm)                 | 250 ppm                |
| Isobutane (75-28-5)          |                                     |                        |
| ACGIH                        | ACGIH TLV-TWA (ppm)                 | 1000 ppm               |
| ACGIH                        | ACGIH TLV-STEL (ppm)                | 1000 ppm               |
| USA OSHA                     | Not established                     |                        |
| Butane (106-97-8)            |                                     |                        |
| ACGIH                        | ACGIH TLV-STEL (ppm)                | 1000 ppm               |

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| Butane (106-97-8)    |                 |
|----------------------|-----------------|
| USA OSHA             | Not established |
| Nitrogen (7727-37-9) |                 |
| ACGIH                | Not established |
| USA OSHA             | Not established |

### 8.2. Exposure controls

|                                  |  |
|----------------------------------|--|
| Appropriate engineering controls | : Use an explosion-proof local exhaust system. Local exhaust and general ventilation must be adequate to meet exposure standards. <b>MECHANICAL (GENERAL): Inadequate - Use only in a closed system.</b> Use explosion proof equipment and lighting. Provide adequate general and local exhaust ventilation. Ensure exposure is below occupational exposure limits (where available).  |
| Eye protection                   | : Wear safety glasses with side shields.   |
| Skin and body protection         | : Wear metatarsal shoes and work gloves for cylinder handling, and protective clothing where needed. Wear appropriate chemical gloves during cylinder changeout or wherever contact with product is possible.  |
| Respiratory protection           | : When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA). |
| Thermal hazard protection        | : Wear cold insulating gloves when transfilling or breaking transfer connections.  |

## SECTION 9: Physical and chemical properties

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

|  |                            |
|--|----------------------------|
| Physical state                             | : Gas                      |
| Colour                                     | : Colourless               |
| Odour                                      | : No data available        |
| Odour threshold                            | : No data available        |
| pH   | : Not applicable.          |
| Relative evaporation rate (butylacetate=1) | : No data available        |
| Relative evaporation rate (ether=1)        | : Not applicable.          |
| Melting point                              | : No data available        |
| Freezing point                             | : No data available        |
| Boiling point                              | : No data available        |
| Flash point                                | : No data available        |
| Auto-ignition temperature                  | : No data available        |
| Decomposition temperature                  | : No data available        |
| Flammability (solid, gas)                  | : No data available        |
| Vapour pressure                            | : Not applicable.          |
| Relative vapour density at 20 °C           | : No data available        |
| Relative density                           | : No data available        |
| Solubility                                 | : Water: No data available |
| Log Pow                                    | : Not applicable.          |
| Log Kow                                    | : Not applicable.          |
| Viscosity, kinematic                       | : Not applicable.          |
| Viscosity, dynamic                         | : Not applicable.          |
| Explosive properties                       | : Not applicable.          |
| Oxidizing properties                       | : None.                    |
| Explosive limits                           | : No data available        |

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### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

| <b>n-Hexane (110-54-3)</b>    |                            |
|-------------------------------|----------------------------|
| LD50 oral rat                 | 25 g/kg                    |
| LD50 dermal rabbit            | 3000 mg/kg                 |
| LC50 inhalation rat (ppm)     | 48000 ppm/4h               |
| ATE US (oral)                 | 25000.000 mg/kg bodyweight |
| ATE US (dermal)               | 3000.000 mg/kg bodyweight  |
| ATE US (gases)                | 48000.000 ppmv/4h          |
| <b>Isobutylene (115-11-7)</b> |                            |
| LC50 inhalation rat (ppm)     | 541657 ppm/1h              |
| ATE US (gases)                | 270828.500 ppmv/4h         |
| <b>Isobutane (75-28-5)</b>    |                            |
| LC50 inhalation rat (ppm)     | 285000 ppm/1h              |
| ATE US (gases)                | 142500.000 ppmv/4h         |
| ATE US (vapours)              | 658.000 mg/l/4h            |
| ATE US (dust,mist)            | 658.000 mg/l/4h            |

Skin corrosion/irritation : Not classified  
pH: Not applicable.

Serious eye damage/irritation : Not classified  
pH: Not applicable.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

| <b>Isobutylene (115-11-7)</b>                    |                                 |
|--|---------------------------------|
| National Toxicology Program (NTP) Status         | 1 - Evidence of Carcinogenicity |
| Reproductive toxicity                            | : Not classified                |
| Specific target organ toxicity (single exposure) | : Not classified                |

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Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

|                             |   |
|-----------------------------|---|
| <b>Isopentane (78-78-4)</b> |   |
| EC50 Daphnia 1              | 2.3 mg/l (Exposure time: 48 h - Species: Daphnia magna)                       |
| <b>n-Hexane (110-54-3)</b>  |   |
| LC50 fish 1                 | 2.54 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |

#### 12.2. Persistence and degradability

|   |  |
|---|--|
| <b>NI - 1-Butene, (9 Component Range)</b> |  |
| Persistence and degradability             | No ecological damage caused by this product.         |
| <b>Isopentane (78-78-4)</b>               |  |
| Persistence and degradability             | Not established.                                     |
| <b>trans-2-Butene (624-64-6)</b>          |  |
| Persistence and degradability             | No data available.                                   |
| <b>1-Butene (106-98-9)</b>                |  |
| Persistence and degradability             | Not readily biodegradable.                           |
| <b>Isobutylene (115-11-7)</b>             |  |
| Persistence and degradability             | The substance is biodegradable. Unlikely to persist. |
| <b>Isobutane (75-28-5)</b>                |  |
| Persistence and degradability             | The substance is biodegradable. Unlikely to persist. |
| <b>Butane (106-97-8)</b>                  |  |
| Persistence and degradability             | The substance is biodegradable. Unlikely to persist. |
| <b>Nitrogen (7727-37-9)</b>               |  |
| Persistence and degradability             | No ecological damage caused by this product.         |

#### 12.3. Bioaccumulative potential

|   |   |
|---|---|
| <b>NI - 1-Butene, (9 Component Range)</b> |   |
| Log Pow                                   | Not applicable.   |
| Log Kow                                   | Not applicable.   |
| Bioaccumulative potential                 | No ecological damage caused by this product.  |
| <b>Isopentane (78-78-4)</b>               |   |
| Log Pow                                   | 3.2 - 3.3   |
| Bioaccumulative potential                 | Not established.  |
| <b>trans-2-Butene (624-64-6)</b>          |   |
| Log Pow                                   | 2.32  |
| Bioaccumulative potential                 | Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9. |
| <b>1-Butene (106-98-9)</b>                |   |
| Log Pow                                   | 2.4   |
| Bioaccumulative potential                 | Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9. |
| <b>Isobutylene (115-11-7)</b>             |   |
| Log Pow                                   | 2.35  |
| Bioaccumulative potential                 | Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9. |
| <b>Isobutane (75-28-5)</b>                |   |
| BCF fish 1                                | 1.57 - 1.97   |
| Log Pow                                   | 2.76  |
| Bioaccumulative potential                 | Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9. |

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| <b>Butane (106-97-8)</b>    |   |
|-----------------------------|---|
| Log Pow                     | 2.89  |
| Bioaccumulative potential   | Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9. |
| <b>Nitrogen (7727-37-9)</b> |   |
| Log Pow                     | Not applicable for inorganic gases.   |
| Log Kow                     | Not applicable.   |
| Bioaccumulative potential   | No ecological damage caused by this product.  |

### 12.4. Mobility in soil

| <b>NI - 1-Butene, (9 Component Range)</b> |   |
|---|---|
| Mobility in soil                          | No data available.  |
| <b>trans-2-Butene (624-64-6)</b>          |   |
| Ecology - soil                            | Because of its high volatility, the product is unlikely to cause ground or water pollution. |
| <b>1-Butene (106-98-9)</b>                |   |
| Ecology - soil                            | Because of its high volatility, the product is unlikely to cause ground or water pollution. |
| <b>Isobutylene (115-11-7)</b>             |   |
| Ecology - soil                            | Because of its high volatility, the product is unlikely to cause ground or water pollution. |
| <b>Isobutane (75-28-5)</b>                |   |
| Ecology - soil                            | Because of its high volatility, the product is unlikely to cause ground or water pollution. |
| <b>Butane (106-97-8)</b>                  |   |
| Ecology - soil                            | Because of its high volatility, the product is unlikely to cause ground or water pollution. |
| <b>Nitrogen (7727-37-9)</b>               |   |
| Mobility in soil                          | No data available.  |
| Ecology - soil                            | No ecological damage caused by this product.  |

### 12.5. Other adverse effects

Effect on the ozone layer : None

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

## SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1954 Compressed gas, flammable, n.o.s., 2.1  
 UN-No.(DOT) : UN1954  
 Proper Shipping Name (DOT) : Compressed gas, flammable, n.o.s.  
 Hazard labels (DOT) : 2.1 - Flammable gas



DOT Symbols : G - Identifies proper shipping name (PSN) requiring the addition of technical name(s) in parentheses following the PSN

### Additional information

Other information : No supplementary information available.



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Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:  
- Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

### Transport by sea

UN-No. (IMDG) : 1954  
Proper Shipping Name (IMDG) : COMPRESSED GAS, FLAMMABLE, N.O.S.  
Class (IMDG) : 2.1 - Flammable gases

### Air transport

UN-No. (IATA) : 1954  
Proper Shipping Name (IATA) : COMPRESSED GAS, FLAMMABLE, N.O.S.  
Class (IATA) : 2

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### n-Hexane (110-54-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Subject to reporting requirements of United States SARA Section 313

|           |         |
|-----------|---------|
| CERCLA RQ | 5000 lb |
|-----------|---------|

|                                       |       |
|---------------------------------------|-------|
| SARA Section 313 - Emission Reporting | 1.0 % |
|---------------------------------------|-------|

### 15.2. International regulations

#### CANADA

#### Isopentane (78-78-4)

Listed on the Canadian DSL (Domestic Substances List)

#### n-Hexane (110-54-3)

Listed on the Canadian DSL (Domestic Substances List)

#### Isobutane (75-28-5)

Listed on the Canadian DSL (Domestic Substances List)

#### Butane (106-97-8)

Listed on the Canadian DSL (Domestic Substances List)

#### Nitrogen (7727-37-9)

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

#### n-Hexane (110-54-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

### 15.2.2. National regulations

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### n-Hexane (110-54-3)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Japanese Pollutant Release and Transfer Register Law (PRTR Law)  
Listed on the Canadian IDL (Ingredient Disclosure List)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CICR (Turkish Inventory and Control of Chemicals)

### 15.3. US State regulations

#### NI - 1-Butene, (9 Component Range)()

|   |    |
|---|----|
| U.S. - California - Proposition 65 - Carcinogens List               | No |
| U.S. - California - Proposition 65 - Developmental Toxicity         | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male   | No |

#### Isopentane (78-78-4)

|   |   |   |   |                                   |
|---|---|---|---|-----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No  | No  | No  | No  |                                   |

#### n-Hexane (110-54-3)

|   |   |   |   |                                   |
|---|---|---|---|-----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No  | No  | No  | No  |                                   |

#### 2-Methyl-1-butene (563-46-2)

|   |   |   |   |                                   |
|---|---|---|---|-----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No  | No  | No  | No  |                                   |

#### trans-2-Butene (624-64-6)

|   |   |   |   |                                   |
|---|---|---|---|-----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No  | No  | No  | No  |                                   |

#### 1-Butene (106-98-9)

|   |   |   |   |                                   |
|---|---|---|---|-----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No  | No  | No  | No  |                                   |

#### Isobutylene (115-11-7)

|   |   |   |   |                                   |
|---|---|---|---|-----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No  | No  | No  | No  |                                   |

# NI - 1-Butene, (9 Component Range)

## Safety Data Sheet P-18-20667

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

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| <b>Isobutylene (115-11-7)</b>   |   |   |   |                                   |
|---|---|---|---|-----------------------------------|
|   |   | Female  |   |                                   |
| No  | No  | No  | No  |                                   |
| <b>Isobutane (75-28-5)</b>  |   |   |   |                                   |
| U.S. - California - Proposition 65 - Carcinogens List   | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No  | No  | No  | No  |                                   |
| <b>Butane (106-97-8)</b>  |   |   |   |                                   |
| U.S. - California - Proposition 65 - Carcinogens List   | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No  | No  | No  | No  |                                   |
| <b>Nitrogen (7727-37-9)</b>   |   |   |   |                                   |
| U.S. - California - Proposition 65 - Carcinogens List   | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No  | No  | No  | No  |                                   |
| <b>Isopentane (78-78-4)</b>   |   |   |   |                                   |
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |   |   |   |                                   |
| <b>n-Hexane (110-54-3)</b>  |   |   |   |                                   |
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |   |   |   |                                   |
| <b>2-Methyl-1-butene (563-46-2)</b>   |   |   |   |                                   |
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |   |   |   |                                   |
| <b>trans-2-Butene (624-64-6)</b>  |   |   |   |                                   |
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |   |   |   |                                   |
| <b>1-Butene (106-98-9)</b>  |   |   |   |                                   |
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |   |   |   |                                   |
| <b>Isobutylene (115-11-7)</b>   |   |   |   |                                   |
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |   |   |   |                                   |
| <b>Isobutane (75-28-5)</b>  |   |   |   |                                   |
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |   |   |   |                                   |



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# NI - 1-Butene, (9 Component Range)

## Safety Data Sheet P-18-20667

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### Butane (106-97-8)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

### Nitrogen (7727-37-9)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

### Other information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc, it is the user's obligation to determine the conditions of safe use of the product

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