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Material Safety Data Sheet  
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1 Chemical Product and Company Identification  
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Tradename:  
3M(TM) TROUBLESHOOTER(TM)  
Product ID:  
XN-1015-7207-3 XN-1015-7208-1  
Intended Use of Product:  
Cleaner;  
Industrial use;  
Division:  
ZD - 3M Canada Company

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2 Hazards Identification  
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Critical Hazards:  
Liquid in aerosol container;  
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.  
Severe Skin Irritation: signs/symptoms can include localized redness, swelling, itching, dryness, cracking, blistering, and pain.  
May be absorbed following inhalation and cause target organ effects.  
May be absorbed following ingestion and cause target organ effects.  
See Sections 7 and 11 for further information.

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### 3 Composition/Information on Ingredients

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Ingredient Name	CAS Number	Percentage
WATER	7732-18-5	60 - 90
ISOBUTANE	75-28-5	5 - 10
ETHANOLAMINE	141-43-5	3 - 7
DIMETHYLOLEYLAMINE OXIDE	14351-50-9	1 - 5
BENZYL ALCOHOL	100-51-6	1 - 5
ETHYL ALCOHOL	64-17-5	1 - 2

**NOTE:**

Each percentage is expressed as the ratio of the weight of the ingredient to the weight of the controlled product.

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### 4 First Aid Measures

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**Instructions for Eye Contact:**

Immediately flush eyes with large amounts of water for at least 30 minutes. Get immediate medical attention.

**Instructions for Skin Contact:**

Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water for at least 20 minutes or until chemical is removed. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

**Instructions for Inhalation:**

Remove person to fresh air. If signs/symptoms develop, get medical attention.

**Instructions for Ingestion:**

Do not induce vomiting unless instructed to do so by medical personnel. Get medical attention.

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### 5 Fire Fighting Measures

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Flash point: Not Available

Lower Explosive Limit (%): Not Available

Upper Explosive Limit (%): Not Available

Autoignition temperature: Not Available

**Suitable Extinguishing Media:**

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

**Exposure Hazards during Fire:**

Closed containers exposed to heat from fire may build pressure and explode. The aerosol spray product was tested for flashback and flame projection in accordance with the test methods set out in the Canadian Hazardous Products Act (Controlled Products Regulations - Schedule 1). Per the test methods there was no evidence of flame

projection or flashback.

Combustion Products from Fire:

Carbon monoxide - During Combustion;  
Carbon dioxide - During Combustion;  
Oxides of Nitrogen - During Combustion;  
Oxides of Sulfur - During Combustion;

Unusual Fire and Explosion Hazards

None known.

Fire Fighting Procedures:

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Special Instructions:

Liquid in aerosol container;

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## 6 Accidental Release Measures

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Personal Precautions:

Observe precautions from other sections. Ventilate the area.  
WARNING ! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. If it can be done safely, place the leaking container in an exhaust hood or well-ventilated area. Contain spilled material. Clean up residue. Place depressurized can and clean up wastes in a closed container approved for transportation by appropriate authorities.

Environmental Procedures

No data available.

Methods for cleaning up

No data available.

Spill Response:

Ventilate the area with fresh air. Dilute in a large excess of water. Carefully, and with stirring, add appropriate dilute acid such as sulfamic acid or vinegar. Confirm neutrality. For large spills, if necessary, get assistance from professional spill clean up team. For small spills, carefully neutralize spill by adding appropriate dilute acid such as vinegar. Work slowly to avoid boiling or spattering. Continue to add neutralizing agent until reaction stops. Let cool before collecting. Or use a commercially available caustic (alkaline or basic) spill clean-up kit. Follow kit directions exactly. Cover, but do not seal for 48 hours. Dispose of collected material as soon as possible.

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## 7 Handling and Storage

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### Storage Requirements:

Do not store containers on their sides.

### Incompatible Materials:

Store away from acids;

Store away from heat;

Store out of direct sunlight.

Store away from oxidizing agents.

Sparks and/or Flames;

### Ventilation:

No data available.

### Explosion Prevention:

Liquid in aerosol container;

### Use Instructions:

For industrial or professional use only.

Do not pierce or burn container, even after use.

Avoid contact with oxidizing agents.

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## 8 Exposure Controls/Personal Protection

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### Personal Protection

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#### Eye Protection:

Avoid eye contact with vapours, mists, or spray.

The following should be worn alone or in combination, as appropriate, to prevent eye contact:

Indirect vented goggles;

#### Hand Protection:

Wear appropriate gloves when handling this material.

The following glove material(s) are recommended:

butyl rubber;

neoprene;

nitrile rubber;

#### Skin Protection:

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

#### Respiratory Protection:

Avoid breathing of vapours, mists or spray.

Select one of the following approved respirators based on airborne concentration of contaminants and in accordance with regulations:

Half facepiece or fullface pressure demand self-contained breathing apparatus.

#### Ingestion (Prevention):

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

Recommended Ventilation:

Do not use in a confined area or areas with little or no air movement.

Do not remain in area where available oxygen may be reduced.

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapour, or spray. If ventilation is not adequate, use respiratory protection equipment.

Ingredient Exposure Data

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WATER (7732-18-5)

LD50 (rat, oral) > 90 ml/kg  
LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits  
No data available.

ISOBUTANE (75-28-5)

Specific Ingredient Data

No data available.  
LD50 (rat, oral) No data available.  
LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits  
ACGIH: TWA 1000 ppm 1000 ppm ACGIH: STEL

ETHANOLAMINE (141-43-5)

LD50 (rat, oral) 1720 mg/kg  
LD50 (dermal, rabbit) 1 ml/kg ( 1018 mg/kg )  
LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits  
ACGIH: TWA 3 ppm  
ACGIH: TWA 7.5 mg/m3  
ACGIH: STEL 6 ppm  
ACGIH: STEL 15 mg/m3  
6 ppm ACGIH: STEL 3 ppm ACGIH: TWA

DIMETHYLOLEYLAMINE OXIDE (14351-50-9)

Specific Ingredient Data

No data available.  
LD50 (rat, oral) No data available.  
LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits  
No data available.

BENZYL ALCOHOL (100-51-6)

LD50 (rat, oral) 1230 mg/kg  
LD50 (dermal, rabbit) 2000 mg/kg  
LC50 (rat, inhalation/4 hours) > 500 mg/m3

Exposure Limits  
AIHA: TWA 10 ppm  
44.2 mg/m3 AIHA: TWA 10 ppm AIHA: TWA

ETHYL ALCOHOL (64-17-5)

LD50 (rat, oral)

LC50 (rat, vapour, 4 hours)  
(male) 117 mg/l

LC50 (rat, inhalation/4 hours)

No data available.

Exposure Limits

ACGIH: STEL 1000 ppm

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## 9 Physical and Chemical Properties

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Physical form,Color,Odour:	Aerosol; Liquid; Green; hydrocarbon odour;
Odour Threshold:	No data available.
pH:	10.5 - 11.5
Boiling point/boiling range:	Approx 100 C
Melting point/melting range:	Not applicable
Vapour pressure:	Not Available
Water Solubility:	Complete
Specific gravity:	Approx 1.07 Water=1
Vapour density:	Not Available
Volatile organic compounds:	< 17 % CARB
Evaporation rate:	Not Available
Viscosity:	< 10 centipoise
Percent Volatile:	97.94 %

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## 10 Stability and Reactivity

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Conditions to Avoid:

Heat;

Sparks and/or Flames; Store out of direct sunlight.

Materials to Avoid:

Strong acids;

Strong oxidizing agents;

Hazardous Decomposition:

Carbon monoxide - During Combustion;

Carbon dioxide - During Combustion;

Oxides of Nitrogen - During Combustion;

Oxides of Sulfur - During Combustion;

Stability and Reactivity:

Stable. Hazardous polymerization will not occur.

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## 11 Toxicological Information

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Effects from Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea,

and impaired vision.

Effects from Skin Contact:

Severe Skin Irritation: signs/symptoms can include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Effects from Inhalation:

Intentional concentration and inhalation may be harmful or fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May be absorbed following inhalation and cause target organ effects.

Effects from Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

Sensitization Information:

No data available.

Carcinogenicity:

Note: This product contains ethanol. In IARC published Monograph No. 44, entitled, 'Alcohol Drinking', the carcinogenicity of ethanol was determined based on chronic exposure to ethanol through human consumption of alcoholic beverages. This is not an expected effect during the foreseeable use of this product.

Mutagenicity:

No data available.

Reproductive Effects:

WARNING: This product contains ethanol. Ethanol is listed under Proposition 65 as a reproductive hazard through human consumption of alcoholic beverages. This is not an expected effect during the foreseeable use of this product. Ethanol in alcoholic beverages can cause birth defects or other reproductive harm.

Component Based Information:

No data available.

Product Based Information:

No data available.

Other Effects & Information:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause:

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Kidney/Bladder Effects: Signs/symptoms may include changes in

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urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.





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16 Other Information

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Reason for Reissue:

The following Sections and topics have been updated or revised:  
Section 14 - Transportation Information

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