



SAFETY DATA SHEET

Harvard Chemical Research, Inc.

Issue Date 19-May-2014

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Version 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name G-Force

Other means of identification

Product Code 2301

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Booster for Olefin Cleaning.

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

Harvard Chemical Research, Inc., 3595 Zip Industrial Blvd., Atlanta, GA 30354

Emergency telephone number

Company Phone Number 1-404-761-0657

24 Hour Emergency Phone Number 800-424-9300

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Label elements

Emergency Overview

Appearance Clear Physical state liquid Odor Low

Hazards not otherwise classified (HNOC)

Other Information

• Causes mild skin irritation

Unknown Acute Toxicity % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | Weight-% | Trade Secret |
|---------------|---------|----------|--------------|
|---------------|---------|----------|--------------|

| | | | |
|---------------------------------|----------|-----|---|
| Ethylene Glycol Monobutyl Ether | 111-76-2 | <10 | * |
|---------------------------------|----------|-----|---|

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

| | |
|---------------------|--|
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Skin Contact | Rinse with clear water. |
| Inhalation | Remove to fresh air. If breathing does not return to normal, seek medical attention. |
| Ingestion | Immediately drink large quantities of water. Get medical attention. Do not induce vomiting. |

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide (CO₂). Dry chemical. Alcohol Foam.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place. Keep out of reach of children. Do not freeze. Follow label instructions.

Incompatible materials Strong acids. OXIDIZERS.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|-------------|--|--|
| Ethylene Glycol Monobutyl Ether 111-76-2 | TWA: 20 ppm | TWA: 50 ppm TWA: 240 mg/m ³ (vacated) TWA: 25 ppm (vacated) TWA: 120 mg/m ³ (vacated) S* S* | IDLH: 700 ppm TWA: 5 ppm TWA: 24 mg/m ³ |

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear Neoprene or protective rubber gloves. Drenching safety shower and eye wash station.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|--------|-----------------------|--------------------------|
| Physical state | liquid | Odor | Low |
| Appearance | Clear | Odor threshold | No information available |
| Color | amber | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--------------------------------------|--------------------------|-------------------------|
| pH | 8.5 | |
| Melting point/freezing point | No information available | |
| Boiling point / boiling range | 100 >212°F | |
| Flash point | No information available | |

| | |
|------------------------------|--------------------------|
| Evaporation rate | <1 |
| Flammability (solid, gas) | No information available |
| Flammability Limit in Air | |
| Upper flammability limit: | No information available |
| Lower flammability limit: | No information available |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Specific Gravity | 1 |
| Water solubility | completely soluble |
| Solubility in other solvents | No information available |
| Partition coefficient | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available |
| Kinematic viscosity | No information available |
| Dynamic viscosity | No information available |
| Explosive properties | No information available |
| Oxidizing properties | No information available |

Other Information

| | |
|------------------|--------------------------|
| Softening point | No information available |
| Molecular weight | No information available |
| VOC Content (%) | No information available |
| Density | 8.22 |
| Bulk density | No information available |

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| 10. STABILITY AND REACTIVITY |
|-------------------------------------|

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

| | |
|---------------------------------|--|
| Hazardous polymerization | Hazardous polymerization does not occur. |
|---------------------------------|--|

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

Strong acids. OXIDIZERS.

Hazardous Decomposition ProductsCarbon dioxide (CO₂). Carbon monoxide. heat.

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| 11. TOXICOLOGICAL INFORMATION |
|--------------------------------------|

Information on likely routes of exposure

| | |
|----------------------------|---|
| Product Information | No data available |
| Inhalation | Irritation and difficulty in breathing. |
| Eye contact | Severely irritating to eyes. |
| Skin Contact | No data available. |

Ingestion

Gastric pain and vomiting.

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---------------------|-----------------------|-----------------------|
| Ethylene Glycol Monobutyl Ether 111-76-2 | = 470 mg/kg (Rat) | = 99 mg/kg (Rabbit) | = 450 ppm (Rat) 4 h |

Information on toxicological effects**Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Sensitization**

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---|-------|---------|-----|------|
| Ethylene Glycol Monobutyl Ether 111-76-2 | A3 | Group 3 | - | - |

Reproductive toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Aspiration hazard

No information available.

Numerical measures of toxicity - Product Information**Unknown Acute Toxicity**

% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

12. ECOLOGICAL INFORMATION**Ecotoxicity**

22.95% of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|---|----------------------|--|--|
| Ethylene Glycol Monobutyl Ether 111-76-2 | - | 2950: 96 h Lepomis macrochirus mg/L LC50 1490: 96 h Lepomis macrochirus mg/L LC50 static | 1000: 48 h Daphnia magna mg/L EC50 1698 - 1940: 24 h Daphnia magna mg/L EC50 |

Persistence and degradability

No information available.

Bioaccumulation

No information available.

| Chemical Name | Partition coefficient |
|---|-----------------------|
| Ethylene Glycol Monobutyl Ether 111-76-2 | 0.81 |

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Do not reuse container.

14. TRANSPORT INFORMATION

DOT Not regulated

15. REGULATORY INFORMATION

International Inventories

| | |
|---------------|-----------------|
| TSCA | Complies |
| DSL/NDSL | Complies |
| EINECS/ELINCS | Complies |
| ENCS | Does not comply |
| IECSC | Complies |
| KECL | Complies |
| PICCS | Does not comply |
| AICS | Complies |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | SARA 313 - Threshold Values % |
|--|-------------------------------|
| Ethylene Glycol Monobutyl Ether - 111-76-2 | 1.0 |

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|----|
| Acute health hazard | No |
| Chronic Health Hazard | No |
| Fire hazard | No |
| Sudden release of pressure hazard | No |
| Reactive Hazard | No |

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|------------|---------------|--------------|
| Ethylene Glycol Monobutyl Ether 111-76-2 | X | X | X |

U.S. EPA Label Information

EPA Pesticide Registration Number Not Applicable

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| 16. OTHER INFORMATION |
|------------------------------|

| | | | | |
|--------------------|------------------|----------------|--------------------|------------------------------------|
| <u>NFPA</u> | Health hazards 0 | Flammability 0 | Instability 0 | Physical and Chemical Properties - |
| <u>HMIS</u> | Health hazards 1 | Flammability 1 | Physical hazards 0 | Personal protection X |

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Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet