1. Identification of the substance/mixture and of the company/undertaking

   Product identifier:
   - Product name: Ethylene glycol dimethyl ether
   - Product code(SDS NO): 2938E-1

Details of the supplier of the safety data sheet

   Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
   Address: 3-1, Honmachibashi, Chuo-ku,Osaka 540-0029,JAPAN
   Division: Safety Management Dept. of Chemicals
   Telephone number: +81-6-6946-8061
   FAX: +81-6-6946-1607
   e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

   GHS classification and label elements of the product

   Classification of the substance or mixture
   - Physical and chemical hazards
     - Flammable liquids: Category 2
   - HEALTH HAZARDS
     - Reproductive toxicity: Category 1B
     - Specific target organ toxicity – single exposure: Narcosis Category 3
   (Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

   Label elements

   Signal word: Danger

   HAZARD STATEMENT
   - Highly flammable liquid and vapor
   - May damage fertility or the unborn child
   - May cause drowsiness or dizziness

   PRECAUTIONARY STATEMENT

   Prevention
   - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
   - Keep container tightly closed.
   - Ground/bond container and receiving equipment.
   - Use explosion-proof electrical/ventilating/lighting equipment.
   - Use only non-sparking tools.
   - Take precautionary measures against static discharge.
   - Avoid breathing dust/fume/gas/mist/vapors/spray.
   - Use only outdoors or in a well-ventilated area.
   - Wear protective gloves and face protection.

   Response
   - In case of fire: Use appropriate media other than water for extinction.
   - IF exposed or concerned: Get medical advice/attention.
   - Call a POISON CENTER or doctor/physician if you feel unwell.
   - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Ethylene glycol dimethyl ether, KISHIDA CHEMICAL CO., LTD., 2938E-1, 30/01/2018

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Storage
Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal
Dispose of contents/container in accordance with local/national regulation.

Physical and Chemical hazards
Highly flammable liquid. Vapor/air mixture may explode.

3. Composition/information on ingredients
Mixture/Substance selection:

Substance
Ingredient name: Ethylene glycol dimethyl ether
Content(%): 98 (min)
Chemical formula: C₄H₁₀O₂
Chemicals No. Japan: 2–421; 7–1321
CAS No.: 110–71–4
MW: 90.12
ECNO: 203–794–9
Note: The figures shown above are not the specifications of the product.

4. First-aid measures
Descriptions of first-aid measures

General measures
IF exposed or concerned: Get medical attention/advice.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF INHALED
Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)
Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

IF SWALLOWED
Rinse mouth.
Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures
Extinguishing media
Suitable extinguishing media
Use appropriate extinguishing media suitable for surrounding facilities.

Specific hazards arising from the substance or mixture
Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters
Specific fire-fighting measures
Evacuate non-essential personnel to safe area.
Special protective equipment and precautions for fire-fighters
6. Accidental release measures
   Personnel precautions, protective equipment and emergency procedures
   - Ventilate area after material pick up is complete.
   - Wear proper protective equipment.

   Methods and materials for containment and cleaning up
   - Absorb spill with inert material (dry sand, earth, etc.), then place in a chemical waste container.

   Preventive measures for secondary accident
   - Collect spillage.

7. Handling and storage
   Precautions for safe handling
   - Preventive measures
     (Exposure Control for handling personnel)
     - Avoid breathing dust/fume/gas/mist/vapors/spray.
     (Protective measures against fire and explosion)
     - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
     - Ground/bond container and receiving equipment.
     - Use explosion-proof electrical/ventilating/lighting equipment.
     - Use only non-sparking tools.
     - Take precautionary measures against static discharge.
   - Exhaust/ventilator
     - Exhaust/ventilator should be available.
   - Safety treatments
     - Avoid contact with skin.
     - Avoid contact with eyes.
   - Safety Measures/Incompatibility
     - Use only outdoors or in a well-ventilated area.
     - Wear protective gloves, protective clothing or face protection.
     - When using do not eat, drink or smoke.
   - Conditions for safe storage, including any incompatibilities
     - Recommendation for storage
       - Keep container tightly closed.
       - Store in a cool, dry place. Do not store in direct sunlight.

8. Exposure controls/personal protection
   Exposure controls
   - Appropriate engineering controls
     - Do not use in areas without adequate ventilation.
     - Eye wash station should be available.
     - Washing facilities should be available.
   - Individual protection measures
   - Respiratory protection
     - Wear respiratory protection.
   - Hand protection
     - Wear protective gloves.
9. Physical and Chemical Properties
Information on basic physical and chemical properties

Physical properties
- Appearance: Liquid
- Color: Colorless
- Odor: Characteristic odor

Phase change temperature
- Initial Boiling Point/Boiling point: 82 through 83°C
- Melting point/Freezing point: −58°C
- Decomposition temperature data N.A.
- Flash point: (Ethylene glycol dimethyl ether)(C.C.) −2°C
- Auto-ignition temperature: 202°C

Explosive properties data N.A.
- Vapor pressure: 6.4 kPa (20°C)
- Vapor density data N.A.
- Relative Vapor Density (Air=1): 3.1
- Relative density of the Vapor/air mixture at 20°C (Air = 1): 1.13
- Specific gravity/Density: 0.86

Solubility
- Solubility in water: Miscible
- n-Octanol /water partition coefficient: log Pow=0.21

10. Stability and Reactivity
Chemical stability
- Stable under normal storage/handling conditions.

Possibility of hazardous reactions
- The substance can readily form explosive peroxides. Reacts violently with strong oxidants.
  (ICSC 1568)

Conditions to avoid
- Contact with incompatible materials.
- Contact with fire source.

Incompatible materials
- Strong oxidizing agents

Hazardous decomposition products
- Carbon oxides, Explosive peroxides

11. Toxicological Information
Information on toxicological effects
- No Acute toxicity data available
- No Irritant properties data available
- No Allergenic and sensitizing effects data available
- No Mutagenic effects data available
- No Carcinogenic effects data available

Reproductive toxicity
- [GHS Cat. Japan, base data]
  (Ethylene glycol dimethyl ether) cat.1B; PATTY 5th, 2001

No Teratogenic effects data available
- Delayed and immediate effects and also chronic effects from short- and long-term exposure
STOT
STOT—single exposure
\[ \text{cat.3(drow./dizz.)} \]
[Japan published data]
(Ethylene glycol dimethyl ether) Narcosis (PATTY 5th, 2001)
No Aspiration hazard data available

12. Ecological Information
Ecotoxicity
No Aquatic toxicity data available
Water solubility
(Ethylene glycol dimethyl ether)
miscible (ICSC, 2004)
No Persistence and degradability data available
Bioaccumulative potential
(Ethylene glycol dimethyl ether)
\[ \log \text{Pow} = -0.21 \] (ICSC, 2004)
No Mobility in soil data available
Ozone depleting chemical data not available

13. Disposal considerations
Waste treatment methods
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information
UN number: 2252
UN proper shipping name:
1,2-DIMETHOXYETHANE
Transport hazard class(es): 3
Packing group: II
ERG GUIDE NO.: 127

15. Regulatory Information
Safety, health and environmental regulations/legislation specific for the substance or mixture
US major regulations
TSCA
Ethylene glycol dimethyl ether
Other regulatory information
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information
GHS classification and labelling
Flam. Liq. 2: H225 Highly flammable liquid and vapor
Repr. 1B: H360 May damage fertility or the unborn child
STOT SE 3: H336 May cause drowsiness or dizziness
Reference Book
Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN
Classification, labelling and packaging of substances and mixtures (table 3-1 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2017 TLVs and BEIs. (ACGIH)
hhttp://monographs.iarc.fr/ENG/Classification/index.php
Supplier's data/information
Hazard Communication Standard – 2012

General Disclaimer
This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.
The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products’ properties.
The GHS classification data given here is based on current Japan official data (NITE published in 2016).