Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking
   
   Product identifier:
   
   Product name: Heptane
   
   Product code (SDS NO): 3623E-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
   
   Skin corrosion/irritation: Category 2
   
   Serious eye damage/eye irritation: Category 2
   
   Specific target organ toxicity – single exposure: Respiratory tract irritation Category 3
   
   Specific target organ toxicity – single exposure: Narcosis Category 3
   
   Specific target organ toxicity – repeated exposure: Category 1 (nerve/nervous system)
   
   Aspiration hazard: Category 1
   
   ENVIRONMENT HAZARDS
   
   Hazardous to the aquatic environment – acute hazard: Category 1
   
   Hazardous to the aquatic environment – long-term hazard: Category 1
   
   (Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

   Label elements

   Signal word: Danger
   
   HAZARD STATEMENT
   
   Highly flammable liquid and vapor
   
   Causes skin irritation
   
   Causes serious eye irritation
   
   May cause respiratory irritation
   
   May cause drowsiness or dizziness
   
   Causes damage to organs through prolonged or repeated exposure
   
   May be fatal if swallowed and enters airways
   
   Very toxic to aquatic life
   
   Very toxic to aquatic life with long lasting effects

   PRECAUTIONARY STATEMENT
   
   Prevention
   
   Avoid release to the environment.
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.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves and face protection.
Wear eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response
In case of fire: Use appropriate media other than water for extinction.
Collect spillage.
Get medical advice/attention if you feel unwell.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
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.
Do NOT induce vomiting.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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: Heptane
Content(%): 97 (min)
Chemical formula: C7H16
Chemicals No, Japan: 2-7
CAS No.: 142-82-5
MW: 100.20
ECNO: 205-563-8
Note: The figures shown above are not the specifications of the product.

4. First-aid measures
Descriptions of first-aid measures
General measures
Get medical attention/advice 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.
Wash with plenty of soap and water.
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.
Do NOT induce vomiting.
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
Wear fire/flame resistant/retardant clothing.
Wear protective gloves/protection clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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)
Do not breathe 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
Control parameters
Adopted value
(Heptane)
ACGIH(1979) TWA: 400ppm
STEL: 500ppm (CNS impair; URT irr)
OSHA-PEL
Heptane TWA 500ppm, 2000mg/m3

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.
Eye protection
Wear eye/face protection.
Safety and Health measures
Wash ⋯ thoroughly after handling.
Do not eat, drink or smoke when using this product.
Take off contaminated clothing and wash it before reuse.

9. Physical and Chemical Properties
Information on basic physical and chemical properties
Physical properties
Appearance: Liquid
Color: Colorless, Clear
Odor: Characteristic odor
Phase change temperature
Initial Boiling Point/Boiling point: 98°C
Melting point/Freezing point: −91°C
Decomposition temperature data N.A.
Flash point: (Heptane)−4°C
Auto-ignition temperature: 285°C
Explosive properties: Flammability or explosive limit
Lower limit: 1.1 vol %
Upper limit: 6.7 vol %
Vapor pressure: 4.6 kPa (20°C)
Vapor density data N.A.
Relative Vapor Density (Air=1): 3.46
Specific gravity/Density: 0.68
Solubility
   Solubility in water: None
   n-Octanol /water partition coefficient: log Pow 4.66

10. Stability and Reactivity
   Chemical stability
      Stable under normal storage/handling conditions.
   Possibility of hazardous reactions
      Reacts violently with strong oxidants. This generates fire and explosion hazard. Attacks many plastics. (ICSC 0657)
   Conditions to avoid
      Contact with incompatible materials.
      Contact with fire source.
   Incompatible materials
      Strong oxidizing agents
   Hazardous decomposition products
      Carbon oxides

11. Toxicological Information
   Information on toxicological effects
   No Acute toxicity data available
   Irritant properties
   Skin corrosion/irritation
      [GHS Cat. Japan, base data]
      (Heptane)
      human dermatitis (DFGOT vol.11,1998)
   Serious eye damage /irritation
      [GHS Cat. Japan, base data]
      (Heptane)
      human irritating (EPA_JP risk assessment vol.6, 2008)
   No Allergenic and sensitizing effects data available
   No Mutagenic effects data available
   No Carcinogenic effects data available
   No Teratogenic effects data available
   No reproductive toxicity data available
   Delayed and immediate effects and also chronic effects from short- and long-term exposure
   STOT
   STOT—single exposure
      [cat.3(resp. irrit.)]
      [Japan published data]
      (Heptane) Respiratory tract irritation ( HSDB, 2014 )
      [cat.3(drow./dizz.)]
      [Japan published data]
      (Heptane) Narcosis ( HSDB, 2014 )
   STOT—repeated exposure
      [cat.1]
12. Ecological Information

Ecotoxicity
Aquatic toxicity
  Very toxic to aquatic life
  Very toxic to aquatic life with long lasting effects
Aquatic acute toxicity component(s) data
  [GHS Cat. Japan, base data]
  (Heptane)
  Crustacea (Mysidopsis bahia) LC50=0.1mg/L/96hr (SIDS, 2013)
Water solubility
  (Heptane)
  none (ICSC, 1997)
Persistence and degradability
  (Heptane)
  Degrade rapidly (BOD_Degradation : 101% (Registered chemicals data check & review, Japan, 1996))
Bioaccumulative potential
  (Heptane)
  log Pow=4.66 (ICSC, 1997)
No Mobility in soil data available
Ozone depleting chemical data not available

13. Disposal considerations

Waste treatment methods
  Avoid release to the environment (~ if this is not the intended use).
  Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN number: 1206
UN proper shipping name: HEPTANES
Transport hazard class(es): 3
Packing group: II
ERG GUIDE NO.: 128
Transport in bulk according to Annex II of MARPOL73/78 and IBC Code
  Noxious Liquid ; Cat. X
  Heptane
Packaging P
Heptane
15. Regulatory Information
Safety, health and environmental regulations/legislation specific for the substance or mixture
US major regulations
TSCA
Heptane
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
  Skin Irrit. 2: H315 Causes skin irritation
  Eye Irrit. 2: H319 Causes serious eye irritation
  STOT SE 3: H335 May cause respiratory irritation
  STOT SE 3: H336 May cause drowsiness or dizziness
  STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure
  Asp. Tox. 1: H304 May be fatal if swallowed and enters airways
  Aquatic Acute 1: H400 Very toxic to aquatic life
  Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects
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 (table3–1 ECNO6182012)
  2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
  2017 TLVs and BEIs. (ACGIH)
  http://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 determine 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).