1. Identification of the substance/mixture and of the company/undertaking
   Product identifier:
   Product name: Hydriodic acid
   Product code (SDS NO): 3766E-1

2. Hazards identification
   GHS classification and label elements of the product
   Classification of the substance or mixture
   HEALTH HAZARDS
   Skin corrosion/irritation: Category 1
   Serious eye damage/eye irritation: Category 1
   Specific target organ toxicity – single exposure: Category 1 (respiratory apparatus)
   Specific target organ toxicity – repeated exposure: Category 1 (skin; thyroid/thyroid gland; respiratory apparatus; systemic toxicity)

   Label elements
   Signal word: Danger
   HAZARD STATEMENT
   Causes severe skin burns and eye damage
   Causes serious eye damage
   Causes damage to organs after single exposure
   Causes damage to organs through prolonged or repeated exposure

   PRECAUTIONARY STATEMENT
   Prevention
   Do not breathe dust/fume/gas/mist/vapors/spray.
   Wash contaminated parts thoroughly after handling.
   Wear protective gloves, protective clothing or face protection.
   Wear eye protection/face protection.
   Do not eat, drink or smoke when using this product.

   Response
   Get medical advice/attention if you feel unwell.
   IF INHALED: Remove person to fresh air and keep comfortable for breathing.
   IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
   Wash contaminated clothing before reuse.
   IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if
present and easy to do. Continue rinsing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Disposal
Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients
Mixture/Substance selection:
Mixture
Ingredient name: Hydriodic acid
Content(%): 55
Chemical formula: HI
Chemicals No, Japan: 1-364
CAS No.: 10034-85-2
MW: 127.91
ECNO: 233-109-9

Ingredient name: Water
Content(%): 45
Chemical formula: H2O
CAS No.: 7732-18-5
MW: 18.02
ECNO: 231-791-2
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.
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/protective 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, et al), 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.

Exhaust/ventilator
- Exhaust/ventilator should be available.

Safety treatments
- Avoid contact with skin.
- Avoid contact with eyes.

Safety Measures/Incompatibility
- Wear protective gloves, protective clothing or face protection.
- Wear eye protection/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.
- Keep under lock and key.

8. Exposure controls/personal protection
Control parameters
Adopted value
- (Hydriodic acid)
  - ACGIH(2007) TWA: (0.01ppm(IFV)) (Hypothyroidism; URT irr)

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.
  Wash contaminated clothing before reuse.

9. Physical and Chemical Properties
Information on basic physical and chemical properties
Physical properties
  Appearance: Liquid
  Color: Colorless
  Odor data N.A.
Phase change temperature
  Initial Boiling Point/Boiling point data N.A.
  Melting point/Freezing point data N.A.
  Decomposition temperature data N.A.
  Flash point data N.A.
  Auto-ignition temperature data N.A.
Explosive properties data N.A.
Vapor pressure data N.A.
Vapor density data N.A.
Specific gravity/Density data N.A.
Solubility
  Solubility in water: Miscible
  n-Octanol /water partition coefficient data N.A.

10. Stability and Reactivity
Chemical stability
  Stable under normal storage/handling conditions.
Possibility of hazardous reactions
  (Hydriodic acid)
  Reacts with oxidants. This generates fire hazard. Attacks many metals. This produces flammable/explosive gas (hydrogen). The solution in water is a strong acid. It reacts violently with bases and is corrosive. (ICSC 1326)
Conditions to avoid
  Contact with incompatible materials.
  Contact with fire source.
Incompatible materials
  Bases, Oxidizing agents
Hazardous decomposition products
  Iodine, Hydrogen
11. Toxicological Information

Information on toxicological effects
No Acute toxicity data available

Irritant properties
Skin corrosion/irritation
[GHS Cat. Japan, base data]
(Hydriodic acid)
human necrosis (HSDB, 2015)

Serious eye damage /irritation
[GHS Cat. Japan, base data]
(Hydriodic acid)
severe (HSDB, 2015)

No Allergenic and sensitizing effects data available
No Mutagenic effects data available

Carcinogenicity
(Hydriodic acid)
ACGIH–(A4) (2007) : Not Classifiable as a Human Carcinogen

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.1]
[Japan published data]
(Hydriodic acid)
respiratory apparatus (HSDB, 2015)

STOT–repeated exposure
[cat.1]
[Japan published data]
(Hydriodic acid)
skin; thyroid/thyroid gland; respiratory apparatus; systemic toxicity (HSDB, 2015; Medicine data, 2016 (2015))

No Aspiration hazard data available

12. Ecological Information

Ecotoxicity
No Aquatic toxicity data available

Water solubility
(Hydriodic acid)
good (42.5 g/100 ml, 20°C) (ICSC, 2010)

No Persistence and degradability data available
No Bioaccumulative potential data available
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: 1787
UN proper shipping name: HYDRIODIC ACID
Transport hazard class(es): 8
Packing group: III
ERG GUIDE NO.: 154
Special provisions NO.: 223; A3; A803
Environmental hazards
MARPOL Annex V – Substances Harmful to Marine Environment
   Specific target organ toxicity – repeated exposure: cat.1
   Hydriodic acid
Transport in bulk according to Annex II of MARPOL73/78 and IBC Code
   Non Noxious Liquid ; Cat. OS
   Water

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

16. Other information
GHS classification and labelling
   Skin Corr. 1: H314 Causes severe skin burns and eye damage
   Eye Dam. 1: H318 Causes serious eye damage
   STOT SE 1: H370 Causes damage to organs after single exposure
   STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure
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 ECN06182012)
   2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
   2018 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
Supplier’s data/information
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 2017).