

Safety Data Sheet

Prepared to US OSHA HazCom 2012, CMA, ANSI, European Directives and the UN Globally Harmonized System, 3rd Edition

1. Chemical Product Identification

GHS Product Identifier: 196.44 1-Iodobutane, n-Butyl Iodide

Manufacturer: Deepwater Chemicals, Inc. 1210 Airpark Road, Woodward, Oklahoma 73801; Tel: 800-854-4064, Website: www.deepwaterchemicals.com

Recommended Use: 1-Iodobutane is used as an alkylating agent in solvents and other intermediates. Used in the electronics industry as a subsurface preparation.

(24) Hour Emergency Contact: Chemtrec 800-424-9300

Technical Service: 580-334-3539



2. Hazard Identification

Signal Word: Warning! Flammable liquid and Vapor, Category 3. Skin corrosion/irritation, Category 2, Causes skin irritation. Serious eye damage/eye irritation, Category 2B. Causes eye irritation. Specific target organ toxicity- single exposure, Category 3. May cause respiratory irritation.

3. Composition/Information on Ingredients

Chemical Identity	Molecular Weight	Chemical Formula	CAS#	EINECS#	Percent%
1-Iodobutane	184.03	C ₄ H ₉ I	542-69-8	208-824-4	98-100

4. First Aid Measures and Acute Health Hazards

Eye Contact: Causes eye irritation. May cause damage to organs through prolonged or repeated exposure. IF IN EYES:

Flush with copious amounts of water for 30 minutes, occasionally lifting the upper and lower lids. Get medical advice/attention.

Skin Contact: Do not get into eyes, on skin or on clothing. Causes skin irritation. Causes burning on lesions or cuts if present on skin. IF ON SKIN:

Remove/Take off immediately, all contaminated clothing. Rinse skin with water/shower. Wash hands thoroughly after handling.

Ingestion: Ingestion may irritate the gastrointestinal tract. IF SWALLOWED:

Immediately call a POISON CENTER or doctor/physician.

Inhalation: Inhalation of vapor or mists can irritate the respiratory tract. IF INHALED:

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Give oxygen. Get medical advice/attention.

Chronic Exposure/Target Organs: Chronic exposure of iodides may produce "iodism", which maybe manifested by skin rash, running nose, headache and irritation of the mucous membranes. Weakness, anemia loss of weight and general depression may also occur.

Aggravation of Pre-existing Conditions: Trigger and/or worsen hyperthyroidism and hypothyroidism then cause temporary or even permanent thyroid conditions.

5. Fire Fighting Measures

Flash Point: 33 Deg. C	Method Used: Setaflash Closed Cup	
LEL %: No Data Available	Auto Ignition Temp: NDA	
UEL%: No Data Available		

Fire and Explosion Hazards: Above the flash point, explosive vapor-air mixtures may be formed. Sealed containers may rupture when heated. Contact with strong oxidizers may cause fire. Sensitive to static discharge. Fire may produce toxic or irritating gases or fumes of Iodine.

Extinguishing Media: Use dry chemical, CO₂ or water spray.

Fire Fighting Instructions:

Small Fires: Use dry chemical, CO₂ or water spray.

Large Fires: Use water spray, fog or regular foam. Move containers from area if you can without risk. Dike fire control water for later disposal. Do not scatter material. Wear full protective clothing and NIOSH approved SCBA apparatus with a full-face respirator.

6. Accidental Release Measures

Evacuation: See the Table of Initial Isolation and Protective Action Distances from the Emergency Response Guidebook, ERG# 128.

Containment: Ventilate area of leak and spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Eliminate source of spill if possible. Contain and recover solid when possible. Collect in an appropriate container or absorb with an inert material, i.e, vermiculite, dry sand earth, and place in a chemical waste drum. Do not use combustible materials, such as sawdust. Do not flush to sewer!

Reporting: In the event of a Hazardous Materials Incident during transportation, the regulations in 49CFR 171.15 and 171.16 are to be followed. Under 40CFR 302.6 (CERCLA), 1-Iodobutane does not have a RQ.

7. Handling and Storage

Storage Conditions: Store in UN-HDPE drum or Tote. Store in a cool, dry, well-ventilated area away from incompatible substances, direct sunlight or elevated temperatures. Keep containers tightly closed using a tamper-evident seal. Protect against physical damage. Shower and dispose of outer clothing and change to clean garments at the end of the day. Wash hands before eating and do not eat, drink or smoke in workplace. Containers of this material may be hazardous when empty since they retain product residues.

8. Exposure Controls/Personal Protection

<u>Substance (CAS#)</u>	<u>ACGIH- TLV</u>	<u>ACGIH- STEL</u>	<u>OSHA- PEL</u>	<u>OSHA- STEL</u>
1-Iodobutane (CAS# 542-69-8)	Not Established	Not Established	Not Established	Not Established

Engineering Controls/Ventilation: Use appropriate and MACT engineering controls to reduce air contamination to approved or permissible standards. Where such systems are not effective or not feasible, wear suitable personal protective equipment, which performs satisfactorily and meets local/national standards.

Eye/Face Protection: Avoid eye and skin contact with liquids. Eye contact can be avoided by wearing a full-face shield or safety glasses with side and brow protection. Refer to OSHA's 29 CFR 1910.133 Eye and Face Protection Standard for regulatory compliance.

Skin Protection: Proper protective gloves should be worn when handling hazardous materials. Glove selection guides should be consulted. Rubber, Nitrile, PVC coated,

Neoprene, Vinyl or Butyl gloves offer proper protection. It is recommended to wear full skin protection. This can be achieved by wearing breathable chemical suits, Teflon impregnated, with hoods and elastic bands for the wrists and ankles.

Respiratory Protection: Always use a NIOSH approved, at minimum, P95 filtration efficiency respirator or, NIOSH P100 cartridge for a full-face respirator. Observe the manufacturer's cartridge service-life and the recommended change schedule. Refer to OSHA's 29 CFR 1910.134 Respiratory Protection Program for regulatory compliance is the use of these respirators.

9. Physical and Chemicals Properties

Appearance:	Colorless to slightly yellow
Odor:	Sharp, Oily-like
Physical State:	Liquid
pH	Not available
Boiling Point:	130-131 Degrees C
Melting Point:	Not applicable
Freezing Point:	No available
Vapor Pressure:	Not available
Vapor Density:	No available
Specific Gravity	1.617 @ 20 Degrees C
Evaporation Rate:	No available
Solubility in Water:	Insoluble
Percent Solids by Weight:	Not applicable
Percent Volatile:	Not available
Refractive Index	Not available
Volatile Organic Compounds	31%
Molecular Weight	184.03

Note: The physical data presented above are typical values and should not be construed as a specification.

10. Stability and Reactivity

Stability: Stable under ambient temperatures and pressure, but will yellow as a result of oxidation by the formation of free iodine. Store under a nitrogen blanket or use silver mesh for longer storage life.

Incompatible Materials: Strong Oxidizers or strong bases.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Substance (CAS No.)	1-Iodobutane	542-69-8
Acute Testing	Route of Entry	Value/Critical Effects
Eye Irritation		Category 2B
Skin Irritation		Category 2
Skin Sensitization		Negative
Toxicity	LD50 ipr-(rat)	692 mg/kg
Toxicity	LD50 ipr(mus)	101 mg/kg

Subchronic Exposure: This substance has not been fully investigated to provide any information.

Chronic Exposure/Carcinogenicity: This substance has not been fully investigated to provide any information.

Teratology/Developmental Toxicity: Human teratogenic effects by ingestion

Reproductive Toxicity: Experimental teratogenic and reproductive effects

Mutagenicity/Genotoxicity: This substance has not been fully investigated to provide any information.

Neurotoxicity: This substance has not been fully investigated to provide any information.

12. Ecological Information

Terrestrial Fate: This substance has not been fully investigated to provide any information.

Aquatic Fate: This substance has not been fully investigated to provide any information.

13. Disposal Considerations

Dispose of in a manner consistent with federal, state and local regulations. This material is not listed as an Underlying Hazardous Constituent (UHC). This material may exhibit flammability characteristics of a hazardous waste and require appropriate analysis to determine specific disposal methods. Recover and Recycling of Iodides is standard practice in the manufacturing industry. Refer to your manufacturer/recycler for additional information.

14. Transport Information

SHIPPING CRITERIA	US DOT	IATA
Proper Shipping Name	Flammable Liquid, N.O.S (1-Iodobutane)	Flammable Liquid, N.O.S (1-Iodobutane)
Hazard Class	Class 3	Class 3
Identification Number	UN 1993	UN 1993
Packing Group	PG III	PG III
Shipping Label	Flammable Liquid	Flammable Liquid
Additional Marking Requirement	Consult the 49 CFR §172 for special provisions and markings	Consult the IATA Dangerous Goods Regulations

15. Regulatory Information

US Federal Regulations:

OSHA: This material is not considered a Highly Hazardous Chemical and has no established Permissible Exposure Limit (PEL).

EPA: Clean Air Act- This material is not listed as a Hazardous Air Pollutant (HAP). This material does not contain any Class 1 or 2 Ozone Depletors.
Clean Water Act- This material is not listed as a Hazardous Substance, Priority Pollutant or as a Toxic Pollutant.
TSCA- CAS# 542-69-8 is listed on the Public Inventory.
SARA Title III-
 Section 302: RQ= Not Applicable
 Section 302: This product does not have a Threshold Planning Quantity (TPQ)
 Section 313: This material subject to reporting under 40 CFR Part 372, Toxic Release Inventory.

Individual Country Lists: This material can be found on the following country listings; Australia (AICS), Canada (WHMIS), EU (REACH), Japan (ENCS), Korea (ECL), Philippines (PICCS), New Zealand (NZIoC), SWISS (Giftliste 1), Taiwan (BSMI).

European Regulations

European Priority Lists Information (Council Regulation (EEC) 793/93):

This chemical substance is not listed in a priority list.

Classification and Labeling Information:

This chemical substance is not classified in the Annex I of Directive 67/548/EEC.

IUCLID & OECD Chemical Data Sheets and Export Files Information:

Not available for this substance

European Risk Assessment Information (Council Regulation (EEC) 793/93):

Not available for this substance

EU: EINECS#: 208-824-4

State Regulations: Each State and LEPC may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore the user should consult state and local authorities.

16. Other Information

Users Responsibility: A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions are required. Any health hazard and safety information herein should be passed on to your customers or employees.

Disclaimer of Liability: The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

SDS Code: 196.44 GHS

Effective : 06/01/2015

Supercedes: 08/11/2000

For Technical or Regulatory Information contact:

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