SAFETY DATA SHEET

LANXESS
Energizing Chemistry

Section 1. Identification

Product identifier : Biochek 8064 DOTP

Material Number : 57580478

EPA Registration Number: : 39967-131

Identified uses : Biocide

Supplier/Manufacturer : LANXESS Corporation
Product Safety & Regulatory Affairs
111 RIDC Park West Drive
Pittsburgh, PA 15275-1112
USA

For information: US/Canada (800) LANXESS
International +1 412 809 1000

In case of emergency : Chemtrec (800) 424-9300
International (703) 527-3887
Lanxess Emergency Phone (800) 410-3063.

Section 2. Hazards identification

HAZCOM Standard Status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Physical state : Liquid.

Color : White to yellowish. [Light]

Classification of the substance or mixture : EYE IRRITATION - Category 2B
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (trachea) - Category 1

Hazard pictograms :

Signal word : Danger

Hazard statements : Causes serious eye irritation. Causes damage to organs through prolonged or repeated exposure. (trachea)

Hazard Not Otherwise Classified (HNOC) : None known.

Precautionary statements

Prevention : Wear eye/face protection. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell. 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 attention.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	≤5	55406-53-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of first aid measures

Eye contact : Check for and remove any contact lenses. Get medical attention. In case of contact, flush eyes with plenty of water for at least 20 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. If not breathing, if breathing is irregulor or respiratory arrest occurs, provide artifical respiration, or oxygen by a trained professional, using a pocket type respirator.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
watering
redness
Causes irritation with symptoms of reddening, tearing, stinging, and swelling.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Potential chronic health effects

Causes damage to organs through prolonged or repeated exposure.

Section 4. First aid measures

Notes to physician : Treat symptomatically. No specific treatment.

Protection of first-aiders : No special measures required.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.Move containers from fire area if this can be done without risk. Toxic and irritating gases/ fumes may be given off during burning or thermal decomposition.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.Use cold water spray to cool fire-exposed containers to minimize risk of rupture.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Prevent entry into sewers, water courses, basements or confined areas.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be

Section 7. Handling and storage

prohibited in areas where this material is handled, stored and processed.

Conditions for safe storage : Store between the following temperatures: 0 to 40°C (32 to 104°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Exposure limits
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	None

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection : A NIOSH approved positive pressure air-supplied respirator is required whenever airborne concentrations are not known overexceed the recommended exposure limit. For emergency and other conditions where the exposure limits may be greatly exceeded, use an approved, positive pressure self-contained breathing apparatus. This product has poor warning properties since the concentration at which the odor can be smelled is substantially higher than the airborne concentration standard/guideline. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Skin protection : chemical-resistant protective suit. Chemical-resistant gloves. Polyvinyl chloride - PVC , Polychloroprene - CR , or butyl rubber

Eye/face protection : chemical splash goggles.

Medical Surveillance : Not available.

Section 9. Physical and chemical properties

Physical state : Liquid.

Color : White to yellowish. [Light]

Odor : Characteristic. [Slight]

Odor threshold : Not available.

pH : Not available.

Boiling point : >185 °C (1013 hPa)

Melting point : 9°C (48.2°F)

Flash point : Closed cup: 220°C (428°F)

Evaporation rate : Not available.

Explosion limits : Not available.

Vapor pressure : 7 hPa (20℃)
19 hPa (50℃)
21 hPa (55℃)

Section 9. Physical and chemical properties

Density : 1.056 g/cm³

Specific gravity (Relative density) : Not available.

Solubility in water : Immiscible in water.

Partition coefficient: n-octanol/water : Not available.

Vapor density : Not available.

Viscosity : Dynamic: 500 mPa·s
Kinematic: 413.4 mm^2/s

Efflux time : 61s (20°C) nozzle section: 6mm

Ignition temperature : 410°C

Auto-ignition temperature : 420°C (788°F)

Decomposition temperature : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
watering
redness
Causes irritation with symptoms of reddening, tearing, stinging, and swelling.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Potential chronic health effects

Short term exposure

Potential immediate effects : Not available.

Long term exposure

Potential delayed effects : Not available.

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
Biochek 8064 DOTP	LD50 Oral	Rat - Female	>5000 mg/kg	-	OECD 423 Acute Oral toxicity - Acute Toxic Class Method
Biochek 8064 DOTP	LD50 Dermal	Rat	>5000 mg/kg Extrapolation according to Regulation (EC) No. 440/2008	-	402 Acute Dermal Toxicity
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.67 mg/l	4 hours	OECD 403 Acute Inhalation Toxicity

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	Reversibility
Biochek 8064 DOTP	Skin - Mild irritant	Rabbit	-	4 hours 0.5 mL	72 hours	-

Conclusion/Summary

Skin : Mild skin irritation

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Biochek 8064 DOTP	skin	Guinea pig	Not sensitizing

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	Chronic NOAEL Oral	Rat	20 mg/kg/d	2 years
	Sub-chronic NOAEL Inhalation Dusts and mists	Rat	1.16 mg/m³	13 weeks; 6 hours per day 5 days per week

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 473 *In vitro* Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative

Section 11. Toxicological information

Carcinogenicity

Conclusion/Summary : thiabendazole:No carcinogenic effect.

Product/ingredient name	CAS #	IARC	NTP	OSHA
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	55406-53-6	Not classified.	Not classified.	Not classified.

Reproductive toxicity

Conclusion/Summary : thiabendazole:No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	Category 1	Not determined	trachea

Acute toxicity estimates

Route	ATE value (Acute Toxicity Estimates)
Inhalation (dusts and mists)	18.81 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Result	Species	Exposure
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	-	Acute EC50 44 mg/l	Bacteria - Activated sludge	3 hours
	OECD 202 *Daphnia* sp. Acute Immobilization Test	Acute EC50 0.16 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	OECD 201 Alga, Growth Inhibition Test	Acute IC50 0.022 mg/l Fresh water	Algae - Scenedesmus subspicatus	72 hours
	OECD 203 Fish, Acute Toxicity Test	Acute LC50 0.067 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	OECD 201 Alga, Growth Inhibition Test	Chronic NOEC 0.0046 mg/l Fresh water	Algae - Scenedesmus subspicatus	72 hours
	-	Chronic NOEC 0.05 mg/l	Daphnia - Daphnia magna	21 days
	OECD 210 Fish, Early-Life Stage Toxicity Test	Chronic NOEC 0.0084 mg/l Fresh water	Fish - Pimephales promelas	35 days

Conclusion/Summary : Not available.

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	OECD 302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test	>80 % - Inherent - 1 days	0.02 to 1 mg/l	adapted and activated sludge micro-organism

Conclusion/Summary : IPBC is rapidly transformed in the environment to PBC

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	2.8	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

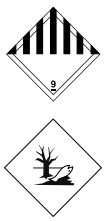
Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

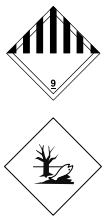
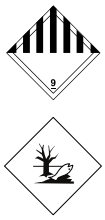
Disposal methods : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal state, provincial and or local environmental controls laws.

RCRA classification : : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (3-IODO-2-PROPINYL-N-BUTYLCARBAMATE)	9	III		8, 146, 173, 335, IB3, T4, TP1, TP29 The U.S. Department of Transportation regulations in 49CFR 172.102 permit this material to ship as an Environmentally Hazardous Substance, Class 9, using Special Provision 146.

Section 14. Transport information

IMDG Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (3-IODO-2-PROPINYL-N-BUTYLCARBAMATE)	9	III		**Emergency schedules (EmS)** F-A, S-F
IATA-DGR Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (3-IODO-2-PROPINYL-N-BUTYLCARBAMATE)	9	III		**Passenger aircraft** 964: 450 L **Cargo aircraft** 964: 450 L

PG* : Packing group

RQ : 0 lbs

Section 15. Regulatory information

SARA 311/312 : Immediate (acute) health hazard

SARA Title III Section 302 Extremely Hazardous Substances : None

SARA Title III Section 313 Toxic Chemicals :

Ingredient name	CAS number	Concentration (%)
thiabendazole	148-79-8	10 - ≤25
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	55406-53-6	≤5

US EPA CERCLA Hazardous Subtances (40 CFR 302.4) : None

State regulations

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections on the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropraite agency in your state.

Ingredient name	CAS number	State Code	Concentration (%)
thiabendazole	148-79-8	NJ - HS	10 - ≤25
Carbamic acid, butyl-, 3-iodo-2-propynyl ester	55406-53-6	NJ - HS	≤5
1,4-Benzenedicarboxylic acid, 1,4-bis (2-ethylhexyl) ester; 1, 4-Benzenedicarboxylic acid, bis (2-ethylhexyl) ester; Terephthalic acid, bis(2-ethylhexyl) ester	6422-86-2		50 - 75
Soybean oil, epoxidized	8013-07-8		≤5

Massachusetts Substances: MA - S
Massachusetts Extraordinary Hazardous Substances: MA - Extra HS
New Jersey Hazardous Substances: NJ - HS
Pennsylvania RTK Hazardous Substances: PA - RTK HS
Pennsylvania Special Hazardous Substances: PA - Special HS

California Prop. 65

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

Section 15. Regulatory information

U.S. Toxic Substances Control Act : This product is excluded from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

FIFRA

EPA Registration Number : 39967-131

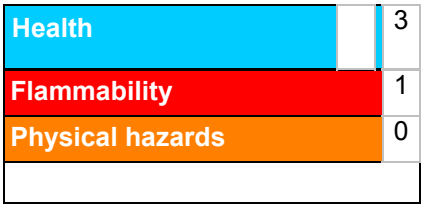
This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Signal word : CAUTION

Hazard statements : May be fatal if inhaled. Harmful if swallowed. Harmful if absorbed through the skin.

Section 16. Other information

Hazardous Material Information System :



0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme
***=Chronic**

The customer is responsible for determining the PPE code for this material. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :

0= Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

Our method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided as a customer service.

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Product Safety and Regulatory Affairs

Indicates information that has changed from previously issued version.

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