

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: Isocyanat (Component A) Foam Pack/ Can Foam
Chemical name: 4,4 'diphenylmethane diisocyanate, isomers and homologues
CAS number: 9016-87-9
REACH number: the substance exempted from the registration requirement according to Article II of the REACH Regulation (polymer)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: a component of polyurethane, two-component foam for muff joints of pre-insulated pipes.

Uses advised against: not determined.

1.3 Details of the supplier of the safety data sheet

Supplier: Logstor International Sp. z o.o.
Address: ul. Handlowa 1, 41-807 Zabrze Poland
Telephone/Fax number: +48 32 248 91 00/ +48 32 373 81 80
E-mail address for a competent person responsible for SDS: logstor.product-safety@kingspan.com

1.4 Emergency telephone number

112

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Skin Irrit. 2 H315, Skin Sens. 1 H317, Eye Irrit. 2 H319, Acute Tox. 4 H332, Resp. Sens. 1 H334, STOT SE 3 H335, Carc. 2 H351, STOT RE 2 H373

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of causing cancer. May cause damage to organs (respiratory system) through prolonged or repeated exposure (inhalation).

2.2 Label elements

Hazard pictograms and signal words



DANGER

Hazard statements

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs (respiratory system) through prolonged or repeated exposure (inhalation).

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P501	Dispose of contents/container to properly labelled waste containers according to national law.

Additional information

As from 24 August 2023 adequate training is required before industrial or professional use.

2.3 Other hazards

The substance does not meet the criteria for classification as PBT or vPvB in accordance with Annex XIII of the REACH Regulation. The substance is not assessed as having endocrine disrupting properties. The substance reacts with water with emission of carbon dioxide which can burst sealed containers. At higher temperatures the reaction is accelerated.

Section 3: Composition/information on ingredients

3.1 Substances

4.4 'diphenylmethane diisocyanate, isomers and homologues

Percentage range:	100 %
CAS number:	9016-87-9
EC number:	618-498-9
Index number:	-
REACH number:	the substance is not subject to registration

Full text of each relevant H phrase is given in section 16 of SDS.

Section 4: First aid measures

4.1 Description of first aid measures

Skin contact: immediately take off contaminated clothing. Wash out contaminated skin with plenty of water and soap. Consult a doctor if irritation occurs. Studies on the MDI indicated that detergent-based on polyglycols or corn oil may be more effective than water and soap.

Eye contact: protect non-irritated eye, remove contact lenses. Rinse the contaminated eyes thoroughly with water for 10- 15 minutes. Avoid strong stream of water - the risk of corneal damage. Consult an ophthalmologist if irritation persists.

Ingestion: do not induce vomiting. Rinse mouth with water. Do not drink alcohol! Never give anything by mouth to an unconscious person. Call a doctor immediately, show container or label.

Inhalation: remove the victim to fresh air, keep warm and calm. Immediately consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Skin contact: redness, dry skin, irritation, itching, rash or other skin changes.

Eye contact: redness, tearing, burning sensation, blurred vision, irritation.

Ingestion: abdominal pain, nausea, vomiting.

Inhalation: irritation of respiratory track, sore throat, cough, headache and dizziness, allergic reactions, breathing difficulties, dyspnea, asthmatic symptoms.

Effects of exposure: suspected of causing cancer. May cause damage to organs (respiratory system) through prolonged or repeated exposure (inhalation).

4.3 Indication of any immediate medical attention and special treatment needed

Physician makes a decision regarding further medical treatment after thoroughly examination of the injured. Persons exposed to the product to leave under medical supervision for 48 hours (Symptoms may be delayed).

Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: CO₂, extinguishing powder, extinguishing foam.

Unsuitable extinguishing media: water. The reaction of water with hot product can be violent with liberation of carbon dioxide. Water can be used when other extinguishing agents are not available.

5.2 Special hazards arising from the substance or mixture

During combustion irritant and toxic vapours and gases: carbon oxides, nitrogen oxides, hydrocarbons, isocyanate vapours, hydrogen cyanide may be released. Do not inhale combustion products – it can be dangerous for health. Above 45 °C substance may polymerize. There is a risk of explosion due to uncontrolled polymerization in a sealed container.

5.3 Advice for firefighters

Personal protection typical in case of fire. Do not stay in the fire zone without self-contained breathing apparatus and protective clothing resistant to chemicals. Do not allow residues of extinguishing media entering drains, surface water and groundwater. Collect used extinguishing media.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Limit the access for the outsiders into the breakdown area, until the suitable cleaning operations are completed. Ensure that only the trained personnel removes the effects of the accident. In case of release of large amounts of the product, isolate the exposed area. Use personal protective equipment. Avoid skin and eyes contamination. Ensure adequate ventilation. Do not breathe vapours. Attention! Risk of slipping on spilled substance.

6.2 Environmental precautions

Do not allow to get into drains, surface water and groundwater. In case of release of large amounts of the substance, it is necessary to take appropriate steps to prevent it from spreading into the environment. Notify the appropriate emergency services.

6.3 Methods and material for containment and cleaning up

Collect the substance in liquid form using liquid-absorbing materials (e.g. sand, earth, universal binders, silica, etc.). Do not absorb with sawdust or other combustible materials. Allow to finish reaction for at least 30 minutes and transfer into waste containers in order to neutralize them (decontamination). Clean the affected area.

Cleansing:

If necessary use the cleaning liquid:

- 1) 5 - 10 % nitrogen carbonate, 0,2 - 2 % liquid detergent, make up to 100 % with water.
- 2) 3 - 8 % ammonia solution, 0,2 - 2 % liquid detergent, make up to 100 % with water.

6.4 Reference to other sections

Appropriate conduct with waste product – see section 13. Personal protective equipment – see section 8.

Section 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices. Avoid contact with eyes and skin. Do not allow product to get into mouth. Do not breathe vapours. Work only in well-ventilated areas. Ensure adequate general or/and local ventilation. Use personal protective equipment. Sensitive people who suffer from asthma or allergic bronchitis should not work with this substance.

7.2 Conditions for safe storage, including any incompatibilities

Store in original, properly labeled and tightly closed containers. If possible, in a dry, cool and well-ventilated place. Recommended storage temperature: +10 - 25 °C. Keep away from food and feed for animals. Avoid fire and direct sunlight. Protect from water and moisture. In contact with water, carbon dioxide is formed, which can lead to the bursting of the containers. After opening, reseal the container and store in an upright position to prevent leakage. Keep unused containers tightly closed. Do not store in unlabeled containers. Recommended container material: carbon steel (Iron), high density polyethylene (HDPE), low density polyethylene (LDPE), tinplate carbon steel (Tinplate), 1,4301 stainless steel (V2). Not recommended material for containers: paper, fibreboard.

7.3 Specific end use(s)

No information about applications other than those specified in section 1.2.

Section 8: Exposure controls/personal protection

8.1 Control parameters

The substance has no occupational exposure limit values at working place established in the European Union.
Legal Basis: Commission Directive 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU.

Please check also any national occupational exposure limit values in your country.

8.2 Exposure controls

Appropriate engineering controls

Use the product in accordance with good occupational hygiene and safety practices. Avoid contact with eyes and skin. Immediately remove contaminated clothing. In the workplace, general and / or local ventilation should be provided in order to keep the harmful factor in the air below the permissible concentration limits. Local exhaust is preferred as it removes contaminants from where they originate, preventing them from spreading. When handling do not eat, drink, smoke or take medications. Before break and after work carefully wash hands. Use protective hand cream.

Individual protection measures, such as personal protective equipment

The necessity to use and selection of appropriate personal protective equipment should take into account the type of risk posed by the product, working conditions and the way of handling the product. The personal protective equipment used must meet the requirements of Regulation (EU) 2016/425 and the relevant standards. The employer is obliged to provide protection measures appropriate to the activities performed and meeting all quality requirements, including their maintenance and cleaning. Any contaminated or damaged PPE must be replaced immediately.

Hand and body protection

Wear protective gloves resistant to chemicals in accordance with EN 374 and protective clothing and footwear in accordance with EN 20346. Recommended glove material: 0,7 mm butyl rubber; 0,4 mm nitrile rubber; 0,5 mm chloroprene rubber. In case of long term contact use protective gloves with effectiveness level 6 (permeation time > 480 minutes).

When using protective gloves during work with chemical products, it should be noted that the efficacy levels and corresponding breakthrough times do not indicate actual times of protection at a particular workplace, because the protection can be affected by many factors, e.g. temperature, other substances etc. If there are any signs of degradation, damage or change in appearance (colour, flexibility, shape), it is recommended to replace the gloves with a new pair. Please follow the manufacturer's instructions, not only in terms of gloves' usage, but also in terms of their cleaning, maintenance and storage. It is also important to know how to take off the gloves in order to avoid hands contamination.

Eyes protection

Use tightly fitted safety glasses with side shields in accordance with EN 166.

Respiratory protection

Use a properly fitted breathing apparatus fitted with an air filter or combination air filter complying with an approved standard when a risk assessment indicates this is necessary.

Filter mask selection should be made based on the known or expected exposure level, product hazards, and the safety limits of the mask selected. Protection class (class 1/protection against gases or vapours with a concentration in the air volume not exceeding 0.1 %, class 2 / protection against gases or vapours with a concentration in the air not exceeding 0.5 %, class 3 / protect against gases or vapours at concentrations in the air volume to 1 %). In cases where the oxygen concentration is ≤ 19 % and / or maximum concentration of toxic substances in the air is ≥ 1.0 % by volume, isolating equipment should be used. A mask with A or A-P2 type filter is recommended with EN 14387.

Thermal hazards

Do not occur.

Environmental exposure controls

Prevent direct runoff into drains/surface waters. Do not contaminate surface waters and drainage ditches with chemicals or used packaging. Any spill or uncontrolled spills into surface water should be reported to the appropriate authorities in accordance with national and local regulations. Export as chemical waste in accordance with national and local regulations.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	liquid
Colour:	brown
Odour:	characteristic
Melting point/freezing point:	< 10 °C
Boiling point or initial boiling point and boiling range:	330 °C
Flammability:	the product is not classified in categories of flammability
Lower and upper explosion limit:	not determined
Flash point:	204 °C
Auto-ignition temperature:	> 600 °C
Decomposition temperature:	> 230 °C
pH:	not applicable
Kinematic viscosity:	not applicable
Solubility:	polymerizes with water
Partition coefficient n-octanol/water (log value):	not determined
Vapour pressure:	$< 0,01$ Pa (25 °C)
Density and/or relative density:	1,23 g/cm ³ (20 °C) 1,24 g/cm ³ (15 °C) 1,21 g/cm ³ (50 °C)
Relative vapour density:	8,5
Particle characteristics:	not applicable

9.2 Other information

Dynamic viscosity:	170-250 mPa·s (DIN 53018, 25 °C)
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Section 10: Stability and reactivity

10.1 Reactivity

Substance is reactive. It can polymerize with the increase of temperature.

10.2 Chemical stability

The product is stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions

In contact with water it reacts with the release of carbon dioxide. The substance reacts strongly with all groups of compounds containing active hydrogen, such as alcohols, amines, acids, bases, while releasing large amounts of heat.

10.4 Conditions to avoid

Avoid sources of heat and direct sunlight. Protect against water and moisture. Avoid temperature below 15 °C and above 230 °C.

10.5 Incompatible materials

Avoid contact with water, strong oxidants, acids, bases, copper, amines and alcohols.

10.6 Hazardous decomposition products

Above the temperature of 150 °C, there is a risk of release of isocyanates, e.g. when welding the hardened product.

Section 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on acute and / or delayed effects of exposure was determined on the basis of information on product classification and / or toxicological tests as well as the knowledge and experience of the manufacturer.

Acute toxicity

LC₅₀ (mist inhalation, rat) 0,493 mg/l/4h

Harmful if inhaled.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Susceptible individuals who suffer from asthma or bronchial hyper-reactivity should not work with this substance. Breathing symptoms may occur within several hours after exposure.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs (respiratory system) through prolonged or repeated exposure (inhalation).

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

Routes of exposure: skin contact, eye contact, inhalation, ingestion. For more information on the impact of each possible route of exposure, see subsection 4.2.

Symptoms related to the physical, chemical and toxicological characteristics

High concentrations may cause depression of central nervous system resulting in headaches, drowsiness and nausea. Product vapours may cause respiratory tract irritation. May cause sensitization by inhalation. Symptoms include runny nose, sneezing, breathing difficulties and hives.

May cause sensitization by skin contact. Symptoms usually include slowly progressive redness, itching, blistering and ulceration.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

See subsection 4.2

11.2 Information on other hazards

Endocrine disrupting properties

The substance is not assessed as having endocrine disrupting properties.

Other information

No data.

Section 12: Ecological information

12.1 Toxicity

Acute toxicity to fish LC₀ > 1000 mg/l/96 h
Acute toxicity to invertebrates EC₀ > 500 mg/l/24 h
Acute toxicity to algae EC₀ 1640 mg/l/72 h/*Scenedesmus subspicatus* (OECD 201)
Substance is not classified as hazardous for the aquatic environment.

12.2 Persistence and degradability

The substance reacts quickly with water and forms mainly hard, insoluble, neutral polycarbonates.
DT₅₀ airborne phototransformation: 0.92 days (QSAR AOPWIN (TM) v1.92)
DT₅₀ hydrolysis: approx. 20 hours (25 °C)
Biodegradation in water: < 10 % within 28 days (OECD 302C).

12.3 Bioaccumulative potential

Bioaccumulation should not be expected.

12.4 Mobility in soil

Isocyanate dispersion is relatively low. The substance is heavier than water and sinks to the bottom where it reacts at the interface. The result of the reaction is a chemically inert, non-biodegradable solid. This layer reduces water ingress and release of amines, slowing down and altering hydrolysis.

12.5 Results of PBT and vPvB assessment

The substance does not meet the criteria for classification as PBT or vPvB.

12.6 Endocrine disrupting properties

The substance is not assessed as having endocrine disrupting properties.

12.7 Other adverse effects

This substance has no influence on the global warming or the ozone layer depletion. Consider other harmful effects of individual components of the mixture on the environment (e.g., global warming potential).

Section 13: Disposal considerations

13.1 Waste treatment methods

Disposal methods for the product: the waste product should be recycled or disposed of in authorized incineration plants or waste treatment/disposal plants in accordance with applicable regulations. Do not empty into drains. Store residues in original containers. Waste code should be given in the place of waste formation. Recommended waste code: 08 05 01* (Waste isocyanates).

Disposal methods for used packing reuse / recycle / eliminate empty containers in accordance with the local legislation. Reusable packaging can be further used after cleaning.

Legal basis: Directive 2008/98/EC as amended and 94/62/EC as amended.

Section 14: Transport information

- 14.1 UN number or ID number
Not applicable. The substance is not classified as dangerous during transport by land, sea and air.
- 14.2 UN proper shipping name
Not applicable.
- 14.3 Transport hazard class(es)
Not applicable.
- 14.4 Packing group
Not applicable.
- 14.5 Environmental hazards
Not applicable.
- 14.6 Special precautions for user
Not applicable.
- 14.7 Maritime transport in bulk according to IMO instruments
Not applicable.

Section 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
ADR Agreement Concerning the International Carriage of Dangerous Goods by Road.
IMDG Code International Maritime Dangerous Goods Code.
IATA The International Air Transport Association regulations.
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC as amended.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 as amended.
Commission Regulation (EU) No 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives as amended.
European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste as amended.
Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.
Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC.
Commission Directive 2009/161/EU of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.

Commission Directive 2017/164/EU of 31 January 2017 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU.

Commission Directive 2019/1831/EU of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.

15.2 Chemical safety assessment

Chemical safety assessment has not been carried out for the substance.

Section 16: Other information

Clarification of aberrations and acronyms

PBT	Persistent, Bioaccumulative and Toxic substance
vPvB	very Persistent, very Bioaccumulative substance
Acute Tox. 4	Acute toxicity - category 4
Carc. 2	Carcinogenicity category 2
Eye Irrit. 2	Eye irritation - category 2
Resp. Sens. 1	Respiratory sensitization - category 1
Skin Irrit 2	Skin irritation - category 2
Skin Sens. 1B	Skin sensitization - category 1B
STOT RE 2	Specific target organ toxicity — repeated exposure category 2
STOT SE 3	Specific target organ toxicity – single exposure category 3

Trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training.

Key literature references and sources of data

The data sheet has been prepared on the basis of literature data, internet databases (e.g. ECHA, TOXNET, COSING) and the possessed knowledge and experience, taking into account the currently applicable legal regulations.

Additional information

Changes to the previous version: Sections: 1-16.

The information above is based on a current available data concerning the product, but also on the experience and knowledge in this field of the producer. They are neither a quality description of the product nor a guarantee of particular features. They are to be treated as aid to safety in transport, storage and usage of the product. That does not free the user from the responsibility of improper usage of the information above and also of improper compliance with the law norms in the field.