

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 25.04.2021

Version number 3

Revision: 04.09.2020

SECTION 1: Identification of the substance/mixture and of the company/undertaking**- 1.1 Product identifier****- Trade name:** Icema R145/88**- Article number:** R045268-00**- 1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

- Application of the substance / the mixture Adhesives**- 1.3 Details of the supplier of the safety data sheet****- Manufacturer/Supplier:**H.B. Fuller, Isar-Rakoll, S.A.
Estrada Nacional 13
PT-4486-851 Mindelo - Vila do Conde
Tel: +351 229 288 200**- Informing department:**Abteilung: EU Regulatory Engineering Adhesives
(department: EU Regulatory Engineering Adhesives)
E-Mail: msds.koe@hbfuller.com**- 1.4 Emergency telephone number:**NCEC emergency service
+44 (0) 1235 239 670 (24 hours)**SECTION 2: Hazards identification****- 2.1 Classification of the substance or mixture****- Classification according to Regulation (EC) No 1272/2008**

Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1 H317 May cause an allergic skin reaction.
Carc. 2 H351 Suspected of causing cancer.
STOT SE 3 H335 May cause respiratory irritation.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

- Additional information: The classification resulted from the calculation method of CLP-regulation.**- 2.2 Label elements****- Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

- Hazard pictograms

GHS07 GHS08

- Signal word Danger

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Trade name: **lcema R145/88**

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- Hazard-determining components of labelling:

diphenylmethane-4,4'-diisocyanate
methylenediphenyl diisocyanate, isomeres and homologues

- Hazard statements

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

- Precautionary statements

P260 Do not breathe mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 [In case of inadequate ventilation] wear respiratory protection.
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.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.

- Additional information:

EUH204 Contains isocyanates. May produce an allergic reaction.

- 2.3 Other hazards**- Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterisation: Mixtures

- **Description:** Mixture of several substances

- Dangerous components:

CAS: 101-68-8 EINECS: 202-966-0 Reg.nr.: 01-2119457014-47-xxxx	diphenylmethane-4,4'-diisocyanate Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	10-20%
CAS: 9016-87-9 EC number: 618-498-9	methylenediphenyl diisocyanate, isomeres and homologues Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	<1%
CAS: 13463-67-7 EINECS: 236-675-5 Reg.nr.: 01-2119489379-17-xxxx	titanium dioxide Carc. 2, H351	<0.2%

- **SVHC** Doesn't contain SVHC > 0,1%.

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- 4.1 Description of first aid measures**- After inhalation**

In case of unconsciousness bring patient into a stable side position for transport.

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Supply fresh air; consult doctor in case of complaints.

Even minimal concentrations of isocyanate can lead to a reaction in sensitised people. Symptoms that may occur include the following: irritation of the eyes, nose, throat and lungs, possibly together with a dry throat, a feeling of chest tightness and breathing difficulties. The symptoms may only arise several hours after exposure.

- After skin contact

If skin irritation continues, consult a doctor.

Treat affected skin with cotton wool or cellulose. Then wash and rinse thoroughly with water and a mild cleaning agent.

The skin is irritated. Sensitisation may occur through skin contact. Animal research has shown that skin contact with substances known to have a sensitising effect on airways, such as diisocyanate, can cause airways to be sensitised. Therefore, when carrying out activities where (un)intentional skin contact with isocyanates may occur (e.g. during maintenance work, or when opening a barrel), wear long-sleeved protective clothing and gloves.

- After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.

- After swallowing

Call a doctor immediately.

Do not induce vomiting; call for medical help immediately.

- 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

- 4.3 Indication of any immediate medical attention and special treatment needed

In instances of existing sensitisation towards isocyanates, a doctor should be consulted with regards to work-related contact with other sensitising substances, or substances which irritate the airway. Treatment for exposure should be geared towards monitoring symptoms and the patient's clinical condition. It must be ensured that the patient has sufficient ventilation and oxygen supply. Isocyanates can cause sensitisation of the airways, or asthma-like symptoms (bronchospasms). Delayed breathing symptoms, including lung oedema, may occur. People who have shown signs of breathlessness after considerable exposure should remain under observation for 24-48 hours.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media

- Suitable extinguishing agents

Water spray

Alcohol-resistant foam

Fire-extinguishing powder

Carbon dioxide

- For safety reasons unsuitable extinguishing agents Water with full jet.

- 5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

- 5.3 Advice for firefighters

- Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective clothing.

- 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

- 6.3 Methods and material for containment and cleaning up: Pick up mechanically.

- 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
No special measures are required when processing in the specified normal way. Keep in mind the product's thermal load when in storage!
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
Protect from frost.
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
Store receptacle in a well ventilated area.
Store in dry conditions.
- **Storage class (according german VCI-concept):** 10
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical systems:** No further data; see item 7.

- Components with limit values that require monitoring at the workplace:

CAS: 101-68-8 diphenylmethane-4,4'-diisocyanate

WEL (Great Britain)	Short-term value: 0.07 mg/m ³
	Long-term value: 0.02 mg/m ³
	Sen; as -NCO

CAS: 9016-87-9 methylenediphenyl diisocyanate, isomeres and homologues

WEL (Great Britain)	Short-term value: 0.07 mg/m ³
	Long-term value: 0.02 mg/m ³
	Sen; as -NCO

- Ingredients with biological limit values:

CAS: 101-68-8 diphenylmethane-4,4'-diisocyanate

BMGV (Great Britain)	1 µmol creatinine/mol
	Medium: urine
	Sampling time: At the end of the period of exposure
	Parameter: isocyanate-derived diamine

- Additional information:

The homogenous mixing of this product is safeguarded by continual physical testing. Raw materials which formerly had dust-like properties are completely incorporated into the liquid / paste-like mass. Subsequently, possible TLVs for solid substances are not given, as there is no more danger of inhaling these substances (when dealing with this mixture)!

- 8.2 Exposure controls

- Personal protective equipment

- General protective and hygienic measures

Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of the work.

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The usual precautionary measures should be adhered to when handling chemicals.

Immediately remove all soiled and contaminated clothing

- Breathing equipment:

Not required with good ventilation and/or adequate extractor facilities

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Short term filter device:

Filter AX (DIN EN 371 [DIN EN 141])

- Protection of hands (DIN EN 420):

Direct contact with the chemical preparation must be avoided by organizational measures. Apply skin protectant before working with gloves to avoid skin swellings and use a skin cleansing and skincare product after the work.

Compliance with the stated penetration time (starts with the first product contact) must be ensured!

The gloves need to be disposed of after the penetration time and new gloves used!

- For the permanent contact gloves made of the following materials are suitable:

If longer exposure to the chemical preparation is necessary, a sturdy overglove against mechanical strain is recommended in combination with the "Barrier 02-100" underglove from Ansell (penetration time 480 min).

- For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

Nitrile rubber (0.8 mm - penetration time 15 min)

- As protection from splashes gloves made of the following materials are suitable:

Recommended for protection from splashes: disposable nitrile gloves (minimum thickness 0.12 mm) with long cuffs. After contact with the chemical preparation, take the disposable nitrile glove off immediately and put on a new disposable nitrile glove.

- Eye protection: Safety glasses

- Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties

- General Information

- Appearance:

Form: Fluid

Colour: White

- Odour: Characteristic

- Odour threshold: Not determined.

- pH-value: Not determined.

- Change in condition

Melting point/freezing point: undetermined

Initial boiling point and boiling range: 208 °C

- Flash point: 200 °C

- Flammability (solid, gaseous) Not applicable.

- Ignition temperature: 520 °C

- Decomposition temperature: Not determined.

- Self igniting: Not determined.

- Explosive properties: Not determined.

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- Explosion limits:	
Lower:	Not determined
Upper:	Not determined
- Vapour pressure at 20 °C:	
0 hPa	
- Specific gravity at 20 °C:	
1.5 g/cm ³	
- Relative density	
Not determined.	
- Vapour density	
Not determined.	
- Evaporation rate	
Not determined.	
- Solubility in / Miscibility with Water:	
Partly soluble	
- Partition coefficient: n-octanol/water:	
Not determined.	
- Viscosity:	
dynamic at 20 °C:	140,000 mPas (Brookfield)
kinematic:	Not determined.
- Solvent content:	
VOC (EU):	0.0 g/l
VOC (EU):	0.00 %
VOC (CH):	0.00 %
Solids content:	
100.0 %	
- 9.2 Other information	
No further relevant information available.	

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with oxidizing agents
Reacts with strong oxidizing agents
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
None, if used according to instructions and stored according to regulations
Nitrogen oxides

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if inhaled.

- **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimates)

Inhalative	LC50/4 h	10.3 mg/l
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CAS: 101-68-8 diphenylmethane-4,4'-diisocyanate		
Inhalative	LC50/4 h	1.5 mg/l (ATE)
CAS: 9016-87-9 methylenediphenyl diisocyanate, isomeres and homologues		
Inhalative	LC50/4 h	1.5 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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 through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Do not allow product to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Disposal in accordance with official regulations
- **EWC-Code(s):**

To be treated as industrial waste: do not dispose of in or on soil, in watercourses or bodies, or through a sewage system. These EU refuse code numbers are recommendations for waste accruing through the use of adhesives and sealants. Any waste produced from organic solvents or other dangerous substances (according GHS) listed under item 3 of this safety datasheet is itself classified as dangerous (*).

Waste accruing during application:

080409* waste adhesives and sealants containing organic solvents or other dangerous substances

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080410 waste adhesives and sealants other than those mentioned in 080409

Waste accruing during cleaning:

08 04 11* adhesive and sealant sludges containing organic solvents or other dangerous substances

08 04 12 adhesive and sealant sludges other than those mentioned in 080411

Waste packaging:

15 01 01 paper and cardboard packaging

15 01 02 plastic packaging

15 01 04 metallic packaging

15 01 10* packaging containing residues of or contaminated by dangerous substances.

No waste code number pursuant to the European Waste Catalogue can be stipulated for this product since only the intended application by the consumer allows an assignment to be made. The waste code number must be stipulated by agreement with the producer (or the responsible public authority).

SECTION 14: Transport information

- 14.1 UN-Number
- ADR/RID/ADN, ADN, IMDG, IATA Void

- 14.2 UN proper shipping name
- ADR/RID/ADN, ADN, IMDG, IATA Void

- 14.3 Transport hazard class(es)
- ADR/RID/ADN, ADN, IMDG, IATA
- Class Void

- 14.4 Packing group
- ADR/RID/ADN, IMDG, IATA Void

- 14.5 Environmental hazards:
- Marine pollutant: No

- 14.6 Special precautions for user Not applicable.

- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

- UN "Model Regulation": Void

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations
- Information about limitation of use:

Employment restrictions concerning young persons must be observed.

- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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For commercial use only.

- Legend of H- and R-phrases, concerning the in chapter 3 mentioned substances (marking of product please see chapter 2)

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 through prolonged or repeated exposure.

- Department issuing SDS:

Abteilung: EU Regulatory Engineering Adhesives

(department: EU Regulatory Engineering Adhesives)

- Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOCV: Lenkungsabgabe auf flüchtigen organischen Verbindungen, Schweiz (Swiss Ordinance on volatile organic compounds)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

- * Data compared to the previous version altered.

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