



Trade name: TCF 25

1 - IDENTIFICATION

Product code : TCF 25

Product name : UGC

Manufacturer or supplier's details

Company name of supplier: FORTA İNŞAAT

Recommended use of the chemical and restrictions on use

Recommended use : Product for construction chemicals

Restrictions on use : Reserved for industrial and professional use.

2 - HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Respiratory sensitization : Category 1

Skin sensitization : Category 1

Skin sensitization : Category 1B

Carcinogenicity : Category 2

Specific target organ toxicity - single exposure : Category 3 (respiratory tract irritation)

Specific target organ toxicity - repeated exposure (Inhalation) : Category 2 (Olfactory organs)

GHS label elements

Hazard pictograms



Signal Word : Danger

Hazard Statements : H319 Causes serious eye irritation.

H315 Causes skin irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or re-peated exposure.

Precautionary Statements : **Prevention:**

P280 Wear protective gloves/ protective clothing/ eye protection/face protection.

P260 Do not breathe dust or mist.

P201 Obtain special instructions before use.

P271 Use only outdoors or in a well-ventilated area.

P202 Do not handle until all safety precautions have been read and understood.

P284 In case of inadequate ventilation wear respiratory protection.

P272 Contaminated work clothing should not be allowed out of the workplace.

P264 Wash face, hands and any exposed skin thoroughly after handling.



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Response:

P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P314 Get medical advice/ attention if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal: P501 Dispose of contents/container to appropriate hazardous waste collection point.

Other hazards: CONTAINS ISOCYANATES. INHALATION OF ISOCYANATE MISTS OR VAPORS MAY CAUSE RESPIRATORY IRRITATION, BREATHLESSNESS, CHEST DISCOMFORT AND REDUCED PULMONARY FUNCTION. OVEREXPOSURE WELL ABOVE THE PEL MAY RESULT IN BRONCHITIS, BRONCHIAL SPASMS AND PULMONARY EDEMA. LONG-TERM EXPOSURE TO ISOCYANATES HAS BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING REDUCED LUNG FUNCTION WHICH MAY BE PERMANENT. ACUTE OR CHRONIC OVEREXPOSURE TO ISOCYANATES MAY CAUSE SENSITIZATION IN SOME INDIVIDUALS, RESULTING IN ALLERGIC RESPIRATORY REACTIONS INCLUDING WHEEZING, SHORTNESS OF BREATH AND DIFFICULTY BREATHING. ANIMAL TESTS INDICATE THAT SKIN CONTACT MAY PLAY A ROLE IN CAUSING RESPIRATORY SENSITIZATION.

3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: No data available.

Components

Chemical name	CAS-No.	Concentration (% w/w)
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	≥ 25 - < 50
Butanedioic acid, dimethyl ester	106-65-0	≥ 1 - < 5
Dimethyl adipate	627-93-0	≥ 1 - < 5
Dimethyl glutarate	1119-40-0	≥ 7 - < 10
diphenylmethane-2,4'-diisocyanate	5873-54-1	≥ 1 - < 3
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly[oxy-1,2-ethanediyl]	57636-09-6	≥ 0.3 - < 1



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4 - FIRST AID MEASURES

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Do not leave the victim unattended.

If inhaled :

Call a physician or poison control center immediately. If unconscious, place in recovery position and seek medical advice.

In case of skin contact :

If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact :

Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed:

Induce vomiting immediately and call a physician.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed :

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

Notes to physician:

Treat symptomatically.

5 - FIRE-FIGHTING MEASURES

Suitable extinguishing media

Water spray
Foam
Dry powder
Carbon dioxide (CO₂)

Unsuitable extinguishing media

High volume water jet



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Hazardous combustion products

Harmful vapours
Nitrogen oxides
Fumes/smoke
Carbon black

Further information

Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special prote

Wear self-contained breathing apparatus for firefighting if necessary.

6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emer gency procedures

Use personal protective equipment. Ensure adequate ventilation.

Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7 - HANDLING AND STORAGE

Advice on protection against fire and explosion

Normal measures for preventive fire protection.

Advice on safe handling

Avoid formation of aerosol.

Do not breathe vapors/dust.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-plication area.

Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.

Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage

Keep only in the original container in a cool, dry, well ventilated place away from ignition sources, heat or flame.

Protect from direct sunlight.

Further information on storage conditions

Keep only in the original container in a cool, dry, wellventilated place away from ignition sources, heat or flame.

Protect from direct sunlight.



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Materials to avoid

No applicable information available.

Recommended storage temperature

41°F/5°C

95°F/35°C

Further information on storage stability

Minimum storage temperature

Maximum storage temperature

8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	TWA value	0.005 ppm	ACGIHTLV
		REL value	0.005 ppm 0.05 mg/m ³	NIOSH
		Ceil_Time	0.020 ppm 0.2 mg/m ³	NIOSH
		CLV	0.02 ppm 0.2 mg/m ³	29 CFR 1910.1000 (Table Z-1)
		CLV	0.02 ppm 0.2 mg/m ³	29 CFR 1910.1000 (Table Z-1-A)
		TWA	0.005 ppm	ACGIH
		C	0.02 ppm 0.2 mg/m ³	OSHA Z-1
		C	0.02 ppm 0.2 mg/m ³	OSHA P0
		TWA	0.005 ppm 0.05 mg/m ³	NIOSH REL
		C	0.02 ppm 0.2 mg/m ³	NIOSH REL

Engineering measures: No applicable information available.

Personal protective equipment

Respiratory protection: When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place.

Hand protection Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water Tightly fitting safety goggles.Wear face-shield and protective suit for abnormal processing problems.



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Skin and body protection: Impervious clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Protective measures:

Do not inhale dust/fumes/aerosols.
Avoid contact with the skin, eyes and clothing.
Avoid exposure - obtain special instructions before use.
Handle in accordance with good building materials hygiene and safety practice.
Wearing of closed work clothing is recommended.

Hygiene measures:

When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Liquid
Color	: Light brown
Odor	: Characteristic
Odor Threshold	: No data available
pH	: Not applicable
Melting point	: No applicable information available.
Boiling point	: No data available
Flash point	: >212°F/>100°C
Method	: Flashpoint test using closed cup, determination of flashpoint.
Evaporation rate	: Not determined
Flammability (solid, gas)	: Not self-igniting
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: Not determined
Density	: Approx. 1.16 g/cm ³ (68 °F / 20 °C)
Solubility(ies) Water solubility	: Insoluble (68 °F / 20 °C)
Solubility in other solvents	: No applicable information available.
Partition coefficient	: n-octanol/water : not applicable for mixtures
Autoignition temperature	: No data available
Decomposition temperature	: No decomposition if stored and handled as prescribed/indicated.
Viscosity Viscosity, dynamic	: Approx. 320 mPa.s (68 °F / 20 °C)
Viscosity, kinematic	: No applicable information available.
Explosive properties	: Not explosive
Oxidizing properties	: Not fire-propagating
Sublimation point	: No applicable information available.
Molecular weight	: No data available
Metal corrosion rate	: Corrosive effects to metal are not anticipated.



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10 - STABILITY AND REACTIVITY

Reactivity	: No hazardous reactions if stored and handled as prescribed/indicated.
Chemical stability	: The product is stable if stored and handled as prescribed/indicated.
Possibility of hazardous reactions	: The product is stable if stored and handled as prescribed/indicated.
Conditions to avoid	: See SDS section 7 - Handling and storage.
Incompatible materials	: Strong acids Strong bases Strong oxidizing agents
Hazardous decomposition products	: Strong reducing agents No hazardous decomposition products if stored and handled as prescribed/indicated.

11 - TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product

Acute oral toxicity : Remarks: No applicable information available.

Acute inhalation toxicity : Remarks: No applicable information available.

Acute dermal toxicity : Remarks: No applicable information available.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified based on available information.



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Further information

Product:

Remarks :No data available

12 - ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Persistence and degradability

Product:

Biodegradability : Remarks: Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available. Discharge into the environment must be avoided.

Components:

Diphenylmethane-4,4'-diisocyanate (MDI):

Partition coefficient: n-octanol/water : log Pow: 4.51 (72 °F / 22 °C) pH: 7
Method: Partition coefficient (n-octanol/water), HPLC method. GLP: no

Butanedioic acid, dimethyl ester:

Partition coefficient: n-octanol/water : log Pow: 0.405 (77 °F / 25 °C) Method: other (calculated)

Dimethyl adipate:

Partition coefficient: n-octanol/water : log Pow: 1.03 (77 °F / 25 °C) Method: other (calculated)

Dimethyl glutarate:

Partition coefficient: n-octanol/water : log Pow: 0.62
Remarks: Information taken from reference works and the literature.

diphenylmethane-2,4'-diisocyanate:

Partition coefficient: n-octanol/water : log Pow: 5.22 (77 °F / 25 °C) Method: other (calculated) GLP: no

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : There is a high probability that the product is not acutely harmful to aquatic organisms. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.



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13 - DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of in accordance with national, state and local regulations.

Contaminated packaging: Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14 - TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

15 - REGULATORY INFORMATION

SARA 313 : The following components are subject to reporting levels es-tablished by SARA Title III, Section 313:

Diphenylme- 101-68-8 thane-4,4'- diisocyanate (MDI)

US State Regulations

Pennsylvania Right To Know

Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8
Isocyanic acid, polymethylenepolyphenylene ester (P-MDI) listed	9016-87-9

New Jersey Right To Know

diphenylmethane-2,4'-diisocyanate	5873-54-1
Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)	9016-87-9
Diphenylmethane-4,4'-diisocyanate (MDI) listed	101-68-8



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California Prop. 65

WARNING: This product can expose you to chemicals including dimethyl sulphate, which is/are known to the State of California to cause cancer, and methanol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

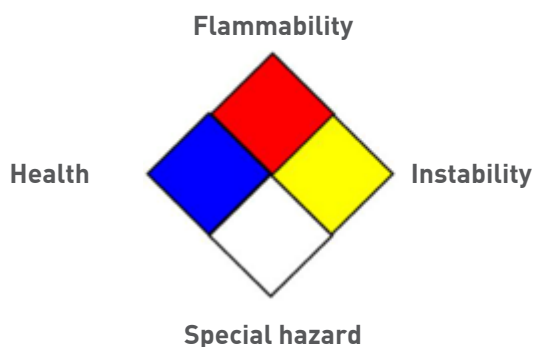
The ingredients of this product are reported in the following inventories:

TSCA : On the inventory, or in compliance with the inventory

16 - OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

29 CFR 1910.1000 (Table Z-1-A):OSHA - Table Z-1-A (29 CFR 1910.1000)

29 CFR 1910.1000 (Table Z-1):OSHA - Table Z-1 (Limits for Air Contaminants) 29 CFR 1910.1000

ACGIH: USA. ACGIH Threshold Limit Values (TLV)

ACGIHTLV: American Conference of Governmental Industrial Hygienists threshold limit values (US)

NIOSH: NIOSH Pocket Guide to Chemical Hazards (US)

NIOSH REL: USA. NIOSH Recommended Exposure Limits

OSHA P0: USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000

OSHA Z-1: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

29 CFR 1910.1000 (Table Z-1-A) / CLV: Ceiling Limit Value:

29 CFR 1910.1000 (Table Z-1) / CLV: Ceiling Limit Value:

ACGIH / TWA: 8-hour, time-weighted average

ACGIHTLV / TWA value: Time Weighted Average (TWA):

NIOSH / Ceil_Time: Ceiling Limit Value and Time Period (if specified):

NIOSH / REL value: Recommended exposure limit (REL):

NIOSH REL / TWA: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek

NIOSH REL / C: Ceiling value not be exceeded at any time.

OSHA P0 / C: Ceiling limit

OSHA Z-1 / C: Ceiling



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AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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