SECTION 1: Identification of the substance/mixture and of the company

1.1. Product Identifier

Product Name:	PU In-situ Binder
Chemical family	Polyurethane Prepolymer
Product Code	Avind-02
Product Category	Solvent Free Polyurethane Insitu Binder

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

Sector of Use	Building, flooring and construction work
Process category	Directly mixing with granules
Identified Uses	Sports grounds, children's play areas used for sound and heat insulation applications.

1.3. Details of the supplier of the safety data sheet

Manufacturer **: iNTEGRAL ENTEGRE YAPi TEKNOLOJiLERi SAN.VE TiC.A.Ş**

Address **:** Metro 34 Plaza 23/100 İosb Bedrettin Dalan Blv. Başakşehir / İstanbul / TÜRKİYE

Telephone **:** +90 212 678 13 13

E-mail **:** info@avind.com.tr

Other Information **:**Acrylic line paint belongs to Avind trademark.

SECTION 2: Hazards Identification

Hazards Classification of the substance or mixture

Acute toxicity, Inhalative,	Category 4 (H332)
Skin irritation,	Category 2 (H315)
Eye irritation,	Category 2 (H319)
Sensitization of the respiratory airways,	Category 1 (H334)
Sensitization of the skin,	Category 1 (H317)
Carcinogenicity,	Category 2 (H351)
Specific target organ toxicity (single exposure),	Category 3 (H335)
Specific target organ toxicity (repeated exposure),	Category 2 (H373)

2.1. Label Elements

Pictogram:

Signal Word: Danger

Hazard statements:

H315 Causes skin irritation.

SECTION 4: First aid measures

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.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
Precautionary statements:	
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ eye protection/ face protection.
P302 + P352 IF ON SKIN:	Wash with plenty of soap and water.
P304 + P340 IF INHALED:	Remove victim to fresh air and keep at rest in a position 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

2.2. Other hazards

Persons who suffer from hypersensitivity of the respiratory tract (e.g. asthmatics and chronic bronchitis sufferers) should avoid handling this product.

Symptoms affecting the respiratory tract can also occur several hours after overexposure. Dust, vapors and aerosols are the primary risk to the respiratory tract.

SECTION 3: Composition/information on ingredients

3.1. Chemical characterization: Mixtures of the following materials

Hazardous Ingredients	CAS Number	% Concentration
Polyurethane prepolymer of MDI and polyether polyol	Not disclosed	50-75
Diphenylmethane-diisocyanate	101-68-8	30-50

4.1. Description of first aid measures

General advice:	Remove contaminated clothing.
If inhaled:	Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:	Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.
If in eyes:	In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.
If swallowed:	Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

4.2. Most important symptoms and effects both acute and delayed:

Symptoms:	The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Eye irritation, skin irritation, allergic symptoms
Hazards:	Symptoms can appear later.
Information on:	Diphenylmethane-4,4'-diisocyanate (MDI)
Hazards:	Respiratory sensitization may result in allergic (asthma-like) signs in the lower respiratory tract including wheezing, shortness of breath and difficulty breathing, the onset of which may be delayed. Repeated inhalation of high concentrations may cause lung damage, including reduced lung function, which may be permanent. Substances eliciting lower respiratory tract irritation may worsen the asthma-like reactions that may be produced by product exposures.

4.3. Indication of any immediate medical attention and special treatment needed:

Note to physician

Antidote:	Specific antidotes or neutralizers to isocyanates do not exist.
Treatment:	Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing agents: water spray, dry powder, carbon dioxide, foam

5.2. Special hazards arising from the substance or mixture:

Hazards during fire-fighting: nitrous gases, fumes/smoke, isocyanate, vapor

5.3. Advice for firefighters

Protective equipment for fire-fighting: Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information: Keep containers cool by spraying with water if exposed to fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

6.2. Environmental precautions:

Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up:

For small amounts: Absorb isocyanate with suitable absorbent material (see § 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 8 % concentrated ammonia, 2 % detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.

For large amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.

For residues: The following measures should be taken for final cleanup: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes.
Dike spillage.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No special measures required.
Ensure good ventilation/exhaustion at the workplace.

Information about fire - and explosion protection:

No special measures required.

7.2 Conditions for safe storage, including any incompatibilities Storage:

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Not required.

Further information about storage conditions:

Protect from frost.
Keep container tightly sealed.
Store in dry conditions.
Store in a cool place.

7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diphenylmethane-4,4'-diisocyanate (MDI)	OSHA PEL	CLV 0.02 ppm 0.2 mg/m3;
	ACGIH TLV	CLV 0.02 ppm 0.2 mg/m3; TWA value 0.005 ppm

8.2. Exposure Controls

Respiratory protection:

Only during spraying without adequate removal by suction.
Use suitable respiratory protective device in case of insufficient ventilation.
Use suitable respiratory protective device when high concentrations are present.

Hand Protection:

Prolonged or repeated use of nitrile, neoprene or latex rubber gloves use.

	Barrier of the skin may be exposed to chemical creams sustainable, but this cream should be applied after exposure to the chemical.
Eye Protection:	Tightly sealed goggles
Personal Hygiene:	Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry- clean before reuse. Remove contaminated shoes and thoroughly clean and dry before reuse. Cleanse skin thoroughly after contact, before breaks and meals, and at the end of the work period. Product is readily removed from skin by water-free hand cleaners followed by washing thoroughly with soap and water.
Body Protection:	Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact. Clean, fresh running water should be easily accessible to the work area.

SECTION 9: Physical and chemical properties

Physical state	liquid
Odor	faintly aromatic
Color	Yellow
pH	Not applicable
Melting point	no data available
Density	1,1 g/cm^3 at 20 °C
Freezing Point	-4°C
Vapor Density	no data available
Flash Point	> 170 °C
Flammability	Not applicable
Explosion	not established
Evaporation Rate	No data
Oxidation Properties	Not applicable

Vapor Pressure	ca. 1 hPa at 20 °C ca. 12 hPa at 50 °C ca. 17 hPa at 55 °C Diphenyl-methane-diisocyanate (MDI) < 0,00001 hPa at 20 °C
Boiling Point	> 200 °C at 1.013 hPa
Ignition Temperature	> 400 °C DIN 51794
Solubility in water	Reacts with water
Viscosity	6000-7000 mPa.s at 25 °C

SECTION 10: Stability and reactivity

10.1 Reactivity Corrosion to metals: No corrosive effect on metal. Oxidizing properties: Not an oxidizer.

10.2 Chemical stability the product is stable if stored and handled as prescribed/indicated.

10.3 Possibility of hazardous reactions Exothermic reaction with amines and alcohols; reacts with water forming CO2; in closed containers, risk of bursting owing to increase of pressure.

10.4 Conditions to avoid Avoid moisture.

10.5 Incompatible materials acids, amines, alcohols, water, Alkaline, strong bases, Substances/products that react with isocyanates.

10.6 Hazardous decomposition products carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapors

SECTION 11: Toxicological information

Acute Toxicity: Harmful if inhaled.

LD/LC50 values relevant for classification:

9016-87-9 4,4'-methylenediphenyl di-isocyanate

Oral	LD50 (OECD 423) >10,000 mg/kg (rat)
Dermal	LD50 >9,400 mg/kg (rabbit)
Inhalative	LC50/4 h (OECD 403) 310

	mg/l (rat) OECD 453 (rat) without guidelines (rat)
Irritation of skin	OECD 406 (Guinea pig) OECD 474

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

Skin corrosion/irritation	Causes skin
irritation. Serious eye damage/irritation	Causes serious
eye irritation.	
Respiratory or skin sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

9016-87-9 4,4'-methylenediphenyl di-isocyanate: OECD 414 4 mg/kg (rat)

101-68-8 diphenylmethane-4,4'-diisocyanate: OECD 414 12 mg/kg (rat) (NOAEL)

Carc. 2

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:

9016-87-9 4,4'-methylenediphenyl di-isocyanate

LogPow (OECD 117) 200	
OECD 202 (EC50)	>1,000 mg/l (Daphnia Magna)
OECD 203 (LC50)	>1,000 mg/l (fish)
OECD 209 (EC50)	>100 mg/l (Bacteria)
OECD 211	>10 mg/l (Daphnia Magna)
OECD 302 C	0 %

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

LogPow (OECD 117) 200	
OECD 202 (EC50)	>1,000 mg/l (daphnia)
OECD 203 (LC50)	>1,000 mg/l (fish)

OECD 209 (EC50)	>100 mg/l (Bacteria)
OECD 211	>10 mg/l (Daphnia Magna)
OECD 302 C	0 % (Modified MITI Test (II))
12.2. Persistence and degradability	No further relevant information available.
12.3. Bio accumulative potential	No further relevant information available.
12.4. Mobility in soil	No further relevant

information available. Additional ecological information:

General notes:	Water hazard class 1 (German Regulation) (Self- assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it 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

Disposal Instructions:	Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

13.1. Waste treatment methods

After final product withdrawal, all residues must be removed from containers (drip-free, powder-free or paste-free). Once the product residues adhering to the walls of the containers have been rendered harmless, the product and hazard labels must be invalidated. These containers can be returned for recycling to the appropriate centers set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations. None disposal into waste water.

SECTION 14: Transport Information

14.1. Transportation (DOT)

UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable

Environmental hazards:	Not applicable
Special precautions for user:	None known

14.2. Sea (IMDG)

UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

14.3. Air (ICAO / IATA)

UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Labelling according to Regulation (EC) No 1272/2008	The product is classified and labelled accordingto the CLP regulation.
Hazard pictograms	GHS07, GHS08
Signal word	Danger
Hazard-determining components of labelling:	4,4'-methylenediphenyl di-isocyanate diphenylmethane-4,4'-diisocyanate
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 dust/ fume/ gas/ mist/ vapors /spray. P280 Wear protective gloves/protective clothing / eye protection / face protection. P284 [In case of inadequate ventilation] wear respiratory protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Directive 2012/18/EU Named dangerous substances - ANNEX I	None of the ingredients is listed. REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 56a National regulations:
Water hazard class:	Water hazard class 1 (Self- assessment): slightly hazardous for water.
VOC VOC EU [%] VOC EU [g/l]	0.00 % 0.0 g/l
VOC USA	0.0 g/l / 0.00 lb/gl
VOC CH	0.00 %
15.2 Chemical safety assessment:	A Chemical Safety Assessment has not been carried out.

Full text of the hazard statements of the CLP classification (1272/2008/CE) referred to under sections 2, 3 and 10.

SECTION 16: Additional information

Relevant Phrases:

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.

ISOPA Guidelines for safe loading/unloading, transport and storage of TDI and MDI.
ISOPA Order No.: PSC-0005-GUIDL

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such