Safety Data Sheet
acc. to OSHA HCS

Printing date 03/26/2019 Reviewed on 03/26/2019

1 Identification

· **Product identifier**

· **Trade name: Tacusil 210008 B**

· **Recommended use** Isocyanates

· **Restrictions on use** For industrial use only

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**
Kitpackers China
Number 339, Petrochemical Avenue, Petrochemical Zone, Daya Bay,
Huizhou City, Guangdong, China, 516211
(86 752) 5533798

· **Information Department:** Product Safety Department: info@tacusil.com.hk

· **Emergency Telephone Number:**
North America - Chemtrec: 1-800-424-9300 (24 hours)
International - Chemtrec: 01-703-527-3887 (24 hours)

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2 Hazard(s) identification

· **Classification of the substance or mixture**

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	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.
STOT SE 3	H335	May cause respiratory irritation.
STOT RE 2	H373	May cause damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Label elements**

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Methylene diphenyl diisocyanate

· **Hazard statements**
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.
H335 May cause respiratory irritation.
H373 May cause damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
[In case of inadequate ventilation] wear respiratory protection.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a poison center/doctor if you feel unwell.
Get medical advice/attention if you feel unwell.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a poison center/doctor.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA System**

· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 1
Reactivity = 1

NFPA special hazards (water reactivity and oxidizing property): None

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· **HMIS System**
· **HMIS-ratings (scale 0 - 4)**

HEALTH	*3
FIRE	1
REACTIVITY	1

Health = *3
Fire = 1
Reactivity = 1

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description**
26447-40-5 Methylene diphenyl diisocyanate
· **Identification number(s)**
· **EC number:** 247-714-0
· **Index number:** 615-005-00-9
· **Chemical characterization: Mixtures**

· **Dangerous components:**		
CAS: 26447-40-5 EINECS: 247-714-0 Index number: 615-005-00-9	Methylene diphenyl diisocyanate Resp. Sens. 1, H334; STOT RE 2, H373 Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335 Eye Dam. 2B, H320	40-50%
	Non hazardous plasticizer	40-50%

· **Additional information:**
If the chemical name/CAS number is proprietary and or weight percentage is listed as a range, the specific chemical identity and or percentage of composition has been withheld as a trade secret.

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4 First-aid measures

· **Description of first aid measures**
· **General information:**
Keep warm, position comfortably and cover well.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:**
Remove victim from exposure to fresh air. Keep person at rest. Provide oxygen if person is not breathing.
Supply fresh air and if symptoms occur call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Polyglycol based skin cleanser or corn oil may be more effective than soap and water.
If skin rash or irritation occurs, seek medical advice.
Remove all contaminated clothing and wash before reuse.
· **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Remove contact lenses if present and easy to do so; continue rinsing.
If symptoms develop seek medical attention.
· **After swallowing:**
If victim is unconscious; never give anything by mouth.
If victim is conscious, rinse out mouth with water.
Get medical attention
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
Check section 11 Toxicological Information for further relevant information.

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5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
Use fire fighting measures that suit the environment.
Alcohol resistant foam
Carbon dioxide
dry chemical
Fire-extinguishing powder
· **For safety reasons unsuitable extinguishing agents:** Water
· **Special hazards arising from the substance or mixture**
Will not burn unless preheated.
In case of fire, the following can be released:
Isocyanates
Hydrogen cyanide (HCN)
Nitrogen oxides (NOx)
Carbon dioxide (CO_2) and Carbon monoxide (CO)

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· **Advice for firefighters**
· **Protective equipment:**
If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA fire brigades standard (29 CFR 1910.156).
As with any fire, wear positive-pressure self-contained breathing apparatus and full protective gear that are NIOSH approved.

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6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during use.
· **Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system.
· **Methods and material for containment and cleaning up:**
For large spills: provide diking or containment to minimize spreading. If possible pump and store material in appropriate container.
For small spills: Ventilate and wash area. Collect spills and absorbant material in appropriate container.
Ensure adequate ventilation.
Wash the spill site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: Formulation 1: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR Formulation 2: concentrated ammonia solution 3 - 8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure.
Non sparking tools should be used.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Keep away from incompatible material(s).
Avoid any release into the environment.
Do not breathe dust/fumes/mist/vapor/spray.
Avoid contact with eyes, skin and clothing.
Keep away from heat,sparks, flames and ignition sources.
Observe all the personal protection requirements in Section 8.
· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Provide ventilation for receptacles.
Keep stored in accordance with local, regional, national, and international regulations.

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8 Exposure controls/personal protection

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional Occupational Exposure Limit Values for possible hazards during processing:** None.

· **Exposure controls**
If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Be sure to clean skin thoroughly after work and before breaks.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

· **Personal Protective Equipment (PPE)**
· **Breathing equipment:**
Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits.
Use a NIOSH approved air-purifying organic vapor respirator if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air supplied respirator. Observe OSHA regulations (29CFR 1910.134) for respirator use.
Airborn concentrations of this material greater than the standard guideline can occur in inadequately ventilated environments when this material is heated, sprayed or aerosolized. In such cases respiratory protection must be worn.
Airborne MDI concentrations greater than the ACGIH TLV-TWA (TLV) or OSHA PEL-C (PEL) can occur in inadequately ventilated environments when MDI is sprayed, aerosolized, or heated. In such cases, respiratory protection must be worn. The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). The type of respiratory protection available includes (1) an atmosphere-supplying respirator such as a self-contained breathing apparatus (SCBA) or a supplied air respirator (SAR) in the positive pressure or continuous flow mode, or (2) an air-purifying respirator (APR). If an APR is selected then (a) the cartridge must be equipped with an end-of-service life indicator (ESLI) certified by NIOSH, or(b) a change out schedule, based on objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be described in the written respirator program. Further, if an APR is selected, the airborne diisocyanate concentration must be no greater than 10 times the TLV or PEL. The recommended APR cartridge is an organic vapor/ particulate filter combination cartridge (OV/P100).
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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· **Material of gloves**

Chemical resistant gloves

· **Eye protection:**
tightly sealed goggles and face shields if the potential for splashing occurs.

Safety Glasses with side shields

· **Body protection:** Appropriate chemical resistant clothing.
· **Limitation and supervision of exposure into the environment**
The Engineering measures or controls, and PPE recommendations are only guidelines and may not apply to every situation. For additional information, please consult the corresponding requirements under OSHA 29 CFR 1910.94-95, and 29 CFR 1910.132-138.

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
· **Form:**	Liquid
· **Color:**	Light yellow
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined. Not determined.
· **Change in condition**	
· **Melting point/Melting range:**	Undetermined.
· **Boiling point/Boiling range:**	>200 °C (>392 °F)
· **Flash point:**	>200 °C (>392 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Vapor pressure:**	Not determined.
· **Vapor Density:**	not determined
· **Density at 20 °C (68 °F):**	1.2 g/cm³ (10.01 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
· **Water:**	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
· **Dynamic:**	Not available. Not determined.
· **Kinematic:**	Not available.
· **VOC content:**	0.00 % 0.0 g/l / 0.00 lb/gal

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10 Stability and reactivity

· **Reactivity** Not a regulated physical hazard under GHS.
· **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
· **Possibility of hazardous reactions** Reacts with alkaline metals.
· **Conditions to avoid**
Keep away from heat, sparks, flame and any other ignition sources.
Moisture
· **Incompatible materials:** Oxidizing agents
· **Hazardous decomposition products:**
Possible in traces.

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Refer to section 5.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
26447-40-5 Methylene diphenyl diisocyanate		
Oral	LD50	2,200 mg/kg (Read-across from CAS 101-68-8)
Dermal	LD50	>9,400 mg/kg (Read-across from CAS 101-68-8)
Inhalative	LC50/4 h	0.49 mg/l (Read-across from CAS 101-68-8) The test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgment and the weight of the evidence, a modified classification for acute inhalation toxicity is justified.

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)
None of the ingredients is listed.
· NTP (National Toxicology Program)
None of the ingredients is listed.
· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

12 Ecological information

· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential**
No data available.
No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:** The product is non-rapid degradable, and low or not highly bioaccumulative.
· **General notes:**
Water hazard class 1 (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.
· **Results of PBT and vPvB assessment**
· **PBT:** None of the ingredients is listed.
· **vPvB:** None of the ingredients is listed.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must be specially treated adhering to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
· **Uncleaned packagings:**
· **Recommendation:** Dispose of according to your local waste regulations.

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14 Transport information

· UN-Number · DOT, ADN, IMDG, IATA	not regulated
· UN proper shipping name · DOT, ADN, IMDG, IATA	not regulated
· Transport hazard class(es) · DOT, ADN, IMDG, IATA · Class	not regulated
· Packing group · DOT, IMDG, IATA	not regulated
· Environmental hazards:	Not applicable.

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· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	not regulated

15 Regulatory information

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

· **SARA Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

· **SARA Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.

· **Section 311/312 (Hazardous Chemical Inventory reporting)**

· **SARA Section 311/312 (Hazardous Chemical Inventory Reporting)**
None of the ingredients is listed.

· **Hazard Abbreviations for SARA 311/312**
A - Acute Health Hazard
C - Chronic Health Hazard
F - Fire Hazard
R - Reactive Hazard
S - Sudden Release of Pressure Hazard

· **TSCA 8 (b) Inventory:**

26447-40-5	Methylene diphenyl diisocyanate	ACTIVE

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **International Regulation Lists**

· **GHS label elements** GHS label elements

· **REACh - Substances of Very High Concern (SVHC) List:**
None of the ingredients is listed.

· **Restriction of Hazardous Substances Directive (RoHS) list:**
None of the ingredients is listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

· **Department Issuing (M)SDS:** Product Development Department
· **Contact:** info@tacusil.com.hk
· **Date of preparation / last revision** 03/26/2019 / 1
· *** Data compared to the previous version altered.**