IPS POLYMER SYSTEMS, INC.
8530 Milliken Avenue
Rancho Cucamonga, CA 91730
TEL 909-941-4999 FAX 909-941-4944
www.ipspolymer.com

Safety Data Sheet
TAP Quik-Cast A

SDS Code: **TAP Quik-Cast A**

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1. PRODUCT AND COMPANY IDENTIFICATION

Company:	IPS Polymer Systems, Inc. 8530 Milliken Avenue Rancho Cucamonga, CA 91730
24-Hr. Emergency Response Information:	Chem-Tel, Inc. 800-255-3924 IPS Polymer Systems, Inc. (8:00am-5:00pm, pacific time)
Product Name:	Two-Component Casting Urethane
Product Codes:	EC3770 (Including all designations such as, but not limited to, -60, -150, -160, -180-(M), etc. following product code)
Chemical Family:	Polymeric Isocyanate
Chemical Name:	Polymeric Diphenylmethane 4,4 Diisocyanate
Synonyms:	MDI, ISO, "A" Component

2. HAZARDS IDENTIFICATION

WARNING

Label Pictograms

Product contains Diphenylmethane Diisocyanate (MDI).
Inhalation of MDI 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.

Avoid contact with skin and eyes. Direct skin or eye contact may cause irritation.

Primary Routes of Exposure: Inhalation, Skin, Ingestion, Eye

GHS Ratings:

Classification	*Rating*
Acute Toxicity- Harmful if Inhaled	Category 4
Skin Corrosion/Irritation (Causes skin irritation)	Category 2
Serious Eye Damage/Eye Irritation (Causes serious eye irritation)	Category 2
Respiratory Sensitization (May cause allergy or asthma symptoms)	Category 1
Specific Target Organ Toxicity (Respiratory Tract Irritant)	Category 3

Hazard statements:
H333 May be harmful if inhaled.
H316 Causes mild 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 organs through prolonged or repeated exposure.

Precautionary Statements:
P260 Do not breathe fumes/ mist/ vapors/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P285 In case of inadequate ventilation wear respiratory 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 easy to do so

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component Chemical Name:	CAS Number:	Approx. Content %
4,4- Diphenylmethane Diisocyanate	101-68-8	30 - 50
Modified MID	25686-28-6	30 - 50
2,2,4-trimethyl1-1,3-pentanediol diisobutyrate	6846-50-0	20 - 40

* Ingredients not precisely identified are proprietary or not hazardous. Values are not product specifications.
NE- Non-existent

4. FIRST-AID MEASURES

Exposure	Method
Eye contact:	Flush with clean, lukewarm water at low pressure for at least 15 minutes, occasionally lifting eyelids. Consult a physician immediately.
Skin Contact:	Remove contaminated clothing. Wash exposed area with warm soapy water thoroughly. Contaminated clothing should be properly laundered before reusing.
Inhalation:	Remove victim from area of exposure to safe area. If not breathing, give mouth to mouth resuscitation. If breathing is difficult, give oxygen. Consult a physician immediately.
Ingestion:	No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

Note to Physician: No specific antidote. Supportive care is recommended. Treatment based on judgment of physician in response to reaction of the patient. The manifestation of respiratory symptoms, including pulmonary edema, resulting from acute exposure, may be delayed. May cause respiratory sensitization.

5. FIRE-FIGHTING MEASURES

Flash Point: >276.8°F. (>136°C.) COC
Flammable Limits In Air By Volume:
Lower: N.E (Nonvolatile Fluid)
Upper: N.E (Nonvolatile Fluid)
Self-Ignition Temperature:
Not Self-Igniting
Extinguishing Media:
Dry chemical extinguishers such as Monoammonium Phosphate, Potassium Sulphate, Potassium Chloride. Additionally, Carbon Dioxide, high expansion (Protenic) chemical foam, water spray for large fires.
Special Fire Fighting Procedure and Protective Equipment:
If water is used, use large amounts as the reaction between hot Isocyanates and water can be vigorous. Use self- contained breathing apparatus and body covering protective clothing.
Unusual Fire and Explosion Hazards:
Water contamination will produce Carbon Dioxide. Do not re-seal contaminated containers as pressure buildup may rupture.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment if cleaning a minor spill.

Minor Spills: Contain the spilled material and then cover with a loose, absorbent material such as oil-dry, vermiculite, sawdust, or fuller's earth. Shovel waste material into proper waste containers. Do not make pressure tight. Transport to a well-ventilated area and treat with a neutralizing solution consisting of a mixture of water and concentrated ammonium Hydroxide or 5-10% sodium carbonate. Add about 10 parts of neutralizer per part of Isocyanate with mixing. Allow to stand 48 hours letting evolved CO2 escape.

Major Spills: Call IPS Polymer Systems Inc. immediately at (909) 941-4999. If it is a transportation spill, transportation spill notify Chem-Tel at (800) 255-3924. Evacuate and ventilate spill area. Dike spills to prevent entry into the environment.

If temporary control of Isocyanate vapor is required, a blanket of protein foam may be placed over the spill. Large quantities may be pumped into closed but not sealed containers for disposal.

Clean Up: Decontaminate area using water/ammonia solution with 1-2% added detergent, letting it stand over affected area for at least 10 minutes. Cover contaminated mops, brooms, etc. used for this with plastic and dispose of properly (often by incineration).

7. HANDLING AND STORAGE

Handling

If contamination of the MDI is suspected, do not re-seal container because of possible rupture due to pressure buildup. Always slowly vent container when opening to relieve any pressure buildup, especially if drum bulging seems apparent.

Storage

Protection Against Fire and Explosion:	No explosion proofing is necessary.
Storage Temperature (Min/ Max):	65°F. (18°C.) to 75°F. (24°C.)
Average Shelf Life:	6 months from date of mfg.
Special Sensitivity (heat, light, moisture):	This product is reactive with water. Containers should be tightly sealed to prevent moisture contamination. A nitrogen blanket should be used for bulk storage at a temperature of 65°F to 75°F. Protect from freezing.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Component Chemical Name:	CAS Number:	ACGIH TLV/OSHA PEL
4,4- Diphenylmethane Diisocyanate (MDI)	101-68-8	0.005ppm/0.2ppm (ceiling)
MODIFIED MDI	2586-28-6	Not Listed
2,2,4-trimethyl1-1,3-pentanediol diisobutyrate	6846-50-0	Not Listed

Employee Protection Recommendations

Eye Protection: Liquid chemical goggles or full face shield. No contact lenses should be worn.

Skin Protection: Chemical resistant gloves such as natural rubber, or polyvinyl alcohol. Cover as much as possible with appropriate clothing. If skin creams are used, keep the area covered by the cream to a minimum.

Respiratory Protection: This product has demonstrated no observable effects at room temperature, however, atmospheric levels should be maintained. In addition, in any spray application or situation where airborne particulates or aerosol are generated, a supplied air source must be provided.

Ventilation: Natural or mechanical. Local exhaust will keep the TLV below minimum in most cases. Spills or other emergencies may require more forceful ventilation means.

Other: Safety showers and eye wash stations should be provided in all work areas. All employees should be properly trained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous Liquid
Color:	Pale Yellow Liquid
Odor:	Slightly Aromatic Or Musty
Molecular WT:	N/A
Melt Point / Freeze Point:	Below 60°F.
Boiling Point:	Decomposes At 646°F (341°C)
Vapor Pressure:	(mm Hg at 20°c: below 0.0001)
Vapor Density (Air = 1):	8.6
Specific Gravity:	1.2
Solubility In Water:	Reacts with Water
VOC, %:	NA
Other Information:	Any information on other physical and chemical parameters is indicated in this section.

10. STABILITY AND REACTIVITY

Conditions to Avoid:	Avoid Moisture.
Substances to Avoid:	Water, Alcohols, Strong Bases, Substances and Other Products that React with Isocyanates
Stability:	Stable under recommended storage conditions.
Polymerization:	May occur with incompatible reactants, especially strong bases, water or temperature over 347°F (175°C.). Temperatures over 120°F (49°C) accelerate the reaction with water.
Incompatibility (materials to avoid):	Water, acid, bases, metal compounds and surface active materials. Avoid water as it reacts to form heat, CO2 and insoluble urea. The combined effect of the CO2 and heat can produce enough presence of the above mentioned materials.
Hazardous Decomposition Products:	Isocyanate vapor and mist, carbon dioxide, carbon monoxide, nitrogen oxides and traces of hydrogen cyanide.
Corrosion to Metals:	Non-Corrosive to Metals
Oxidizing Properties:	Not Fire Propagating

11. TOXICOLOGICAL IFORMATION

Human Effects of Overexposure

Inhalation: May cause respiratory sensitization in susceptible individuals. At room temperature, vapors are minimal due to low vapor pressure. If heated or sprayed as an aerosol, excessive concentrations are attainable that could be hazardous on single exposure. Excessive exposure may cause irritation of the eyes, upper respiratory tract and lungs. Effects may be delayed. Decreased ventilation capacity has been associated with exposure to similar Isocyanates; it is possible that exposure to MDI may cause impairment of lung function.

Skin: May cause allergic skin reaction in susceptible individuals. Prolonged or repeated contact may cause skin irritation and may stain the skin.

Ingestion: This is not considered a common occupation route of exposure, and single dose toxicity is low.

Acute Effects: Medical conditions aggravated by exposure: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyper-reactivity), skin allergies, eczema.

Animal Toxicity

Oral, LD50 (ingestion):	>20 G/KG (Rats)
Dermal, LDS50 (skin contact):	>15.8 G/KG (Rabbits)
Inhalation, LC50 (4 HR):	Approx. 370 MG/L (Dapnea, Limnea Invertebrates and Zebra Fish)
Eyes:	Liquids, aerosols, or vapors are irritating and can cause tearing, reddening, and swelling following contact.
Skin:	Can cause skin irritation, which may include the following: reddening, swelling, rash, scaling, and blistering. Sensitization to isocyanates may result with prolonged contact.
Other:	No conclusive evidence has been developed to indicate that MDI is carcinogenic, teratogenic, or that it causes reproductive effects in animals and humans.
Carcinogenicity:	Neither MDI nor Polymeric MDI are listed by the NTP, IARC, or regulated by Federal OSHA or Cal OSHA as carcinogens.

12. ECOLOGICAL INFORMATION

Toxicity

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity:	Based on information for a similar material: LC50, Danio rerio (zebra fish), static, 96 h: > 1,000 mg/l
Aquatic Invertebrate Acute Toxicity:	Based on information for a similar material: EC50, water flea Daphnia magna, static, 24h: > 1,000 mg/l
Aquatic Plant Toxicity:	Based on information for a similar material: NOEC, Scenedesmus subspicatus (new name: Desmodesmus subspicatus), static, Growth rate inhibition, 72 h: 1,640 mg/l
Toxicity to Micro-organisms:	Based on information for a similar material: EC50; activated sludge, static, 3 h: > 100 mg/l
Toxicity to Soil Dwelling Organisms:	EC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg
Persistence and Degradability:	In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
Bioaccumulation:	In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Mobility in soil:	No data available for assessment due to technical difficulties with testing.

13. DISPOSAL CONSIDERATIONS

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER.

Waste Disposal Methods:	Waste material may be incinerated at proper facilities or disposed of under Local, State, and Federal regulations controlling environmental protection, as regulations may vary from local to local.
Waste Characterization:	Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.
Preferred Options:	Send to licensed, permitted Recycler, Reclaimer, Incinerator, or other thermal based destruction device.

14. TRANSPORT INFORMATION

Technical Shipping Name:	4,4 - Diphenylmethane Diisocyanate	
Freight Class Bulk:	4,4 - Diphenylmethane Diisocyanate	
Freight Class Package:	Chemicals, NOI (Isocyanate), NMFC 60000	
Product Label:	Product Label Established	
DOT (HM-181) (Domestic Surface)	Hazard Class or Division:	Non-regulated
IMO/IMDG Code (OCEAN)	Hazard Class or Division:	Non-regulated
IATA/CAO Code (AIR)	Hazard Class or Division:	Non-regulated

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard Designation:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312:

Immediate (Acute) Health Hazard Yes
Delayed (Chronic) Health Hazard Yes
Fire Hazard No
Reactive Hazard Yes

Sudden Release of Pressure Hazard No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313:
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Component	CAS # Amount
4,4' -Methylenediphenyl Diisocyanate	101-68-8 > 30.0 - < 50.0 %
Component	CAS # Amount
4,4' -Methylenediphenyl diisocyanate	101-68-8 > 61.0 - < 66.0 %

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103:
This product contains the following substances which are subject to CERCLA Section 103 reporting requirements and which are listed in 40 CFR 302.4.

Component	CAS # Amount
4,4' -Methylenediphenyl diisocyanate	101-68-8 > 61.0 - < 66.0 %

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

U.S. Toxic Substances Control Act:
All components of this product are exempt from TSCA Inventory requirements under 40 CFR 720.30. On Inventory.

16. OTHER INFORMATION

NFPA Hazard Codes:	F-1, H-2, R-1
HMIS:	F-1, H-2, R-1

Recommended Uses and Restrictions
We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

For further information, contact IPS Polymer Systems, Inc. at (909) 941-4999

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