MATERIAL SAFETY DATA SHEET

A0107 Catalyst

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:	A0107 Catalyst
Product Number:	A0107
Product Use:	Adhesive component.
Manufacturer/Supplier:	Apollo Chemicals Ltd Sandy Way Amington Industrial Estate Tamworth B77 4DS, UK
Phone Number:	+ 44 (0) 1827 54281
Fax Number:	+ 44 (0) 1827 53030
Emergency Phone:	011 44 (0) 1827 69662
Date of Preparation:	December 6, 2011

Section 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER

TOXIC BY INHALATION. IRRITATING TO EYES. MAY CAUSE SKIN IRRITATION.

Potential Health Effects: See Section 11 for more information.

Likely Routes of Exposure: Skin contact, eye contact, inhalation, and ingestion.

Eye: Irritating to eyes.

Skin: May cause skin irritation. May cause sensitization by skin contact.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

Inhalation: Toxic by inhalation. May cause respiratory tract irritation. May cause respiratory sensitization.

Chronic Effects: May cause sensitization by inhalation and skin contact.

Signs and Symptoms: Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Medical Conditions Aggravated By Exposure: Because of its irritating properties, product may aggravate preexisting skin, eye, and respiratory conditions.

Target Organs: Skin, eyes, gastrointestinal tract, respiratory system.

Potential Environmental Effects: May cause long-term adverse effects in the aquatic environment. See Section 12 for more information.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS #	Wt. %
Methylene chloride	75-09-2	60 - 100
4,4'-Diphenylmethane diisocyanate	101-68-8	10 - 30

Section 4: FIRST AID MEASURES

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. Get medical attention immediately.

Skin Contact: In case of contact, remove product from skin with a towel. Immediately flush skin with plenty of soap and water. Call a physician if irritation develops and persists.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If symptoms persist, obtain medical attention.

Ingestion: Do NOT induce vomiting. Have victim rinse mouth thoroughly with water. If conscious and alert, have victim drink plenty of water. Seek medical attention or call poison control.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or MSDS where possible).

Note to Physicians: Symptoms may not appear immediately.

Section 5: FIRE FIGHTING MEASURES

Flammability: Not flammable by WHMIS criteria.

Means of Extinction:

Suitable Extinguishing Media: Treat for surrounding material.

Unsuitable Extinguishing Media: Not available.

Products of Combustion: Toxic fumes may result from combustion.

Explosion Data:

Sensitivity to Mechanical Impact: Not available.

Sensitivity to Static Discharge: Not available.

Protection of Firefighters: Use water spray to keep fire-exposed containers cool. Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental Precautions: Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

Methods for Containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Clean-Up: Scoop up material and place in a disposal container. Provide ventilation.

Other Information: Not available.

Section 7: HANDLING AND STORAGE

Handling:
Avoid contact with skin and eyes. Do not swallow. Do not breathe gas/fumes/vapor/spray. Use only in well-ventilated areas. Avoid the formation and dispersal of mists. Handle and open container with care. When using do not eat or drink. Wash hands before eating, drinking, or smoking.

Storage:
Keep out of the reach of children. Keep container tightly closed and in a well-ventilated place. Store in a cool place, away from incompatibles.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Ingredient	Exposure Limits ACGIH-TLV
Methylene chloride	50 ppm
4,4'-Diphenylmethane diisocyanate	0.005 ppm

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Personal Protective Equipment:

Eye/Face Protection: Wear eye/face protection.

Hand Protection: Impervious gloves are recommended.

Skin and Body Protection: Impervious protective clothing recommended.

Respiratory Protection: A NIOSH approved organic vapor respirator is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. A self-contained breathing apparatus (SCBA) may be required for unknown vapour concentrations.

General Hygiene Considerations: Handle according to established industrial hygiene and safety practices.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Not available.
Color:	Brown.
Odour:	Pungent.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH:	Not available.
Viscosity:	Thin.
Freezing Point:	Not available.
Boiling Point:	Not available.
Flash Point:	Not available.
Evaporation Rate:	Fast.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Specific Gravity:	1.26
Solubility in Water:	Reacts with water.
Coefficient of Water/Oil Distribution:	Not available.

Auto-ignition Temperature: Not available.

Percent Volatile, wt. %: Not available.

VOC content, wt. %: Not available.

Section 10: STABILITY AND REACTIVITY

Stability: Stable under normal storage conditions.

Conditions of Reactivity: Reacts with water.

Incompatible Materials: Strong oxidizers. Strong acids.

Hazardous Decomposition Products: Toxic fumes may result from combustion.

Possibility of Hazardous Reactions: No dangerous reaction known under conditions of normal use.

Section 11: TOXICOLOGY INFORMATION

EFFECTS OF ACUTE EXPOSURE

Component Analysis

Ingredient	LD_{50} (oral)	LC_{50}
Methylene chloride	1600 mg/kg, rat	76000 mg/m³ 4hr, rat
4,4'-Diphenylmethane diisocyanate	9200 mg/kg, rat	380 mg/m^3 4hr, rat

Eye: Irritating to eyes. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Skin: May cause skin irritation. May cause sensitization by skin contact. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

Inhalation: Toxic by inhalation. May cause respiratory tract irritation. May cause respiratory sensitization.

EFFECTS OF CHRONIC EXPOSURE

Target Organs: Not available.

Chronic Effects: Not hazardous by WHMIS criteria.

Carcinogenicity: Hazardous by WHMIS criteria.

Ingredient	Chemical Listed as Carcinogen or Potential Carcinogen *
Methylene chloride	O, G-A3, I-2B, N-2, CP65
4,4'-Diphenylmethane diisocyanate	I-3

* See Section 15 for more information.

Mutagenicity: Not hazardous by WHMIS criteria.

Reproductive Effects: Not hazardous by WHMIS criteria.

Developmental Effects:

Teratogenicity: Not hazardous by WHMIS criteria.

Embryotoxicity: Not hazardous by WHMIS criteria.

Respiratory Sensitization: Hazardous by WHMIS criteria.

Skin Sensitization: Hazardous by WHMIS criteria.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: May cause long-term adverse effects in the aquatic environment.

Persistence / Degradability: Partially biodegradable.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Volatile.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions:
This material must be disposed of in accordance with all local, state, provincial, and federal regulations. Do not empty into drains.

Section 14: TRANSPORTATION INFORMATION

TDG Classification
UN2810, TOXIC LIQUID, ORGANIC, N.O.S. (Methylene chloride, Diphenylmethane diisocyanate);
Class 6.1, PG III
Limited Quantity (≤ 5L)

Section 15: REGULATORY INFORMATION

Federal Regulations

Canadian: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Global Inventories

Ingredient	Canada DSL/NDSL
Methylene chloride	DSL
4,4'-Diphenylmethane diisocyanate	DSL

HMIS - Hazardous Materials Identification System

Health - 2* **Flammability -** 0 **Physical Hazard -** **PPE –** F

NFPA - National Fire Protection Association:

Health - 2 **Fire -** 0 **Reactivity -** 1

Hazard Rating: 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

WHMIS Classification(s):

Class D1B - Toxic Material
Class D2A - Carcinogenicity
Class D2A - Respiratory Sensitization
Class D2B - Skin Sensitization
Class D2B - Skin/Eye Irritant

WHMIS Hazard Symbols:


SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

OSHA (O) Occupational Safety and Health Administration.

ACGIH (G) American Conference of Governmental Industrial Hygienists.
A1 - Confirmed human carcinogen.
A2 - Suspected human carcinogen.
A3 - Animal carcinogen.
A4 - Not classifiable as a human carcinogen.
A5 - Not suspected as a human carcinogen.

IARC (I) International Agency for Research on Cancer.
1 - The agent (mixture) is carcinogenic to humans.
2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.
2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.
3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.
4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

NTP (N) National Toxicology Program.
1 - Known to be carcinogens.
2 - Reasonably anticipated to be carcinogens.

Section 16: OTHER INFORMATION

Disclaimer:
The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

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