

Safety Data Sheet

1. Identification of the substance / preparation and the Company

1.1 Identification of the substance or preparation

Product name Catalyst Ultrafix SB2 plus
Chemical name and synonym Aromatic polyisocyanate prepolymer in solvent blend

1.2 Use of the substance / preparation

Intended use Hardener for adhesive

1.3 Company identification

Name SAATI SPA
Full address VIA MILANO 14
District and Country 22070 APPIANO GENTILE (CO)
ITALY
Tel. +390319711
Fax +39031933392

1.4 Emergency telephone

SAATI S.p.A
Tel. +390319711
Fax +39031933392

For urgent inquiries refer to

Centro Antiveleni
Ospedale Niguarda
Tel. +390266101029

2. Composition / Information on ingredients

Contains:

Name	Concentration C	Classification
DIPHENYLMETHANE-4,4'-DI-ISOCYANATE	9 <= C < 10,5	Xn R20
Cas No 101-68-8		Xn R42/43
CE No 202-966-0		Xi R36/37/38
Index No 615-005-00-9		
CHLOROBENZENE	0,35 <= C < 0,4	R10
Cas No 108-90-7		Xn R20
CE No 203-628-5		N R51/53
Index No 602-033-00-1		

ETHYL ACETATE	66 <= C < 70		R66
Cas No 141-78-6			R67
CE No 205-500-4		F	R11
Index No 607-022-00-5		Xi	R36
Thionophosphoric acid-tris-(p-isocyanatophenyl ester)	9 <= C < 10,5	Xn	R42
Cas No 4151-51-3			
CE No 223-989-1			

The complete text of -R- phrases is specified in section 16.

3. Hazards Identification

3.1 Substance/Preparation Classification

This preparate is dangerous under 67/548/EEC and 1999/45/EC regulations and subsequent amendments. Therefore, this preparate requires a safety data sheet according to the 91/155/EC regulation and subsequent amendments. Further information on health and/or environmental hazards can be found in sections 11 and 12 of this sheet.

Danger Symbols: F-Xn
Phrases R: 11-36/37/38-42/43-66-67

3.2 Danger Identification

Because of its chemical-physical features, this product is graded as highly flammable (flash-point below 21 °C).
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING.
VAPOURS MAY CAUSE DROWSINESS AND DIZZINESS.

This product contains isocyanates.

Producer's specifications are as follows:

Ready-to-use products containing isocyanates may irritate mucosas, particularly those of the respiratory system, and may give rise to hypersensitivity reactions. Vapour or aerosol inhalation may lead to sensitization.

Please take all the measures used for all solvent-containing products while manipulating isocyanate-containing products. Avoid vapour and aerosol inhalation.

People with allergic or asthmatic precedents or subject to respiratory disorders should not handle products containing isocyanates.

4. First aid measures

EYES: Irrigate copiously with clean, fresh water for at least 15 minutes. Seek medical advice.

SKIN: Wash immediately with plenty of water. Remove contaminated clothing. If irritation persists, seek medical attention. Wash contaminated clothing before using them again.

INHALATION: Remove to open air. If breathing is irregular, seek medical advice.

INGESTION: Obtain immediate medical attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

Closed containers exposed to the heat of a fire may lead to pressure rise and explode. For information on environmental and health risks, protection of the respiratory airways, ventilation and individual protective measures, refer to the other sections of this sheet.

Extinguishing measures: CO₂, foam, chemical powder for flammable liquids. Water may not be effective to extinguish the fire, nevertheless it should be used to cool the containers exposed to flames and prevent fires and explosions. For leakage and spillage that have not caught fire, nebulized water may be used to disperse the flammable vapours and protect the people involved in stopping the leakage.

Equipment: wear equipment complete with helmet and face shield and protection of the neck, selfbreathing apparatus at pressure or demand, insulative jacket and trousers, with bands around the arms, legs and waist.

6. Accidental release measures

Exclude sources of ignition. Cover with inert absorbent material. Collect spillages by means of sparkproof equipment. Use water only to remove residuals, so as not to run the risk of entering the sewer.

Do not let the product dry. Contaminated clothes must be left to soak in water before washing. In order to choose safety measures and protection equipment, please see the other sections of this sheet.

Spillage in waters: remove the liquid from the surface with flameproof pumps or manual pumps or suitable absorbent material. Resort to sinking and/or dispersion of the product with suitable substances in open waters, if permitted by the law.

7. Handling and storage

Avoid the accumulation of electrostatic charges. Store the containers sealed and in a well ventilated place. Vapours may ignite with explosion, it is therefore necessary to avoid accumulation keeping the windows and doors open, ensuring cross ventilation.

Without adequate ventilation, the vapours may accumulate at the bottom and ignite at a distance, if triggered off, with the risk of flashback. Keep far away from sources of heat, sparks and naked flames. Do not smoke, use matches or lighters. Keep the containers earthed while decanting and wear antistatic boots.

Vigorous stirring and flow through the pipings and equipment may cause the formation and accumulation of electrostatic charges due to the low conductivity of the product. In order to avoid the risk of fire outbreak and explosion never use compressed air during movement.

8. Exposure control / personal protection.

DIPHENYLMETHANE-4,4'-DI-ISOCYANANTE			
- TLV TWA	0,05	mg/m3	ACGIH
CHLOROBENZENE			
- TLV TWA	46	mg/m3	ACGIH
- OEL	47	mg/m3	EU (8h)
ETHYL ACETATE			
- TLV TWA	1440	mg/m3	ACGIH

In order to minimize exposure as far as possible, it is strongly recommended to use adequate individual protective measures, such as: masks suitable for the product, goggles, gloves and overall. Do not eat, drink or smoke while handling it. Accurately wash the hands with soap and water before meals and at the end of the work shift.

9. Physical and chemical properties

Colour	Ochre
Odour	Aromatic
Appearance	Liquid
Solubility	Soluble in organic solvents and reacts with water
Viscosity	30mPa*s
Vapour density	N.A.
Evaporation speed	N.A.
Comburent properties	N.A.
Partition coefficient: n-octanol/water	N.A.
pH	N.A.
Boiling point	>70°C
Flash point	<0°C
Explosive properties	N.A.
Vapour pressure	79mmHg
Specific gravity	0,980Kg/l
Solid content:	37,00 %
VOC:	69,36 % - 679,61g/litre of preparation
VOC (volatile carbon) :	37,82 % - 370,59g/litre of preparation

10. Stability and reactivity

The product is stable in normal conditions of use and storage. When heated or in the event of a fire, carbonoxides may be released and vapours which are dangerous to health. The vapours may also form explosive mixtures with the air.

4,4'-diphenylmethane diisocyanate: with water it develops carbon dioxide and forms an indissoluble solid polymer. Hence, humid material, that has eventually been recovered, must be stored in open containers. Ethyl acetate may decompose when heated with water and reacts with strong oxidizing agents (see INRS NIS FORM N18, ED. 1991).

11. Toxicological information

Acute effects: stinging eyes. Symptoms may include rubescence, edema, pain and lachrymation. Vapour inhalation may moderately irritate the lower and upper respiratory tract and cause cough and respiratory disorders. At higher concentrations, it may also cause pulmonary edema. Contact with skin may cause irritation, erythema, dryness and chapped skin. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

Inhalation of this product causes sensitization, which may give rise to a series of inflammatory episodes, most of all characterized by obstruction and affecting the respiratory system. Sometimes, sensitization phenomena arise together with evident rhinitis and asthma. Damages to the respiratory system depend on the inhaled quantity, on the product concentration in the working environment and on the exposure time. Contact with skin causes sensitization (dermatitis). Dermatitis derives from skin irritation on the areas which repeatedly come into contact with the sensitizing agent. Cutaneous lesions may include: erythemas, edemas, papules, vesicles, pustules, scurves, ulcerations and exudative phenomena, whose intensity varies according to the illness seriousness and affected areas. Erythemas, edemas and exudative phenomena prevail during the acute phase. Scurfy skin, dryness, ulcerations and skin thickening prevail during the chronic phase.

This product may have a degreasing action on the skin, producing dryness and chapped skin after repeated exposure.

This product contains highly volatile substances, which may cause serious depression of the central nervous system (CNS) and have negative effects, such as drowsiness, dizziness, slow reflexes, narcosis.

4,4'-diphenylmethane diisocyanate: risk of sensitization even at concentrations lower than TLV in case of spray working.

Thionophosphoric acid-tris-(p-isocyanatophenyl ester):

LD50 oral, rat:> 2000mg/Kg

12. Ecological information

No specific data are available for this product. Handle it according to good working practices. Avoid litter. Do not contaminate soil, sewers and waterways. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

Please take all the proper measures to reduce harmful effects on aquifers.

Acute and chronic environmental effects: the substance features a moderate level of acute and chronic toxicity for water organisms. Log P=3.63 LC50 48h =10.5 mg/l (Brachydanio rerio) LC50 96h=7.72mg/l (Pimephales promelas) EC50 24h=4.3 mg/l (Daphnia Magna) NOEC=6.2 mg/l, 4 days (Cyprinodon variegatus) BCF=1.01 ng/l, 1 day (Daphnia Magna)

13. Disposal consideration

Consider the possibility of burning the product in a suitable incinerator. Acid or basic products must always be neutralized before undergoing any treatment, including biological treatment whenever feasible. If the waste is solid, it can be disposed of in a landfill.

14. Transport information

These goods must be transported by vehicles authorized to the carriage of dangerous goods according to the provisions set out in the current edition of the Code of International Carriage of Dangerous Goods by Road (ADR) and in all the applicable national regulations.

These goods must be packed in their original packaging or in packaging made of materials resistant to their content and not reacting dangerously with it.

People loading and unloading dangerous goods must be trained on all the risks deriving from these substances and on all actions that must be taken in case of emergency situations.

Road and rail transport:

ADR:	3
UN:	1866
Packing Group:	II
Label:	3
Proper Shipping Name:	RESIN SOLUTION

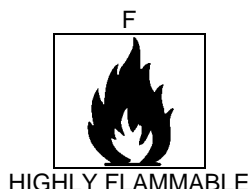
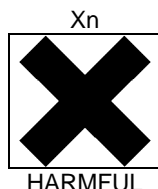
Carriage by sea (shipping):

IMO class:	3
UN:	1866
Packing Group:	II
Label:	3
EMS:	F-E, S-E
Proper Shipping Name:	RESIN SOLUTION

Transport by air:

IATA:	3
UN:	1866
Packing Group:	II
Label:	3

15. Regulatory information



R11	HIGHLY FLAMMABLE.
R36/37/38	IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
R42/43	MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
R66	REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING.
R67	VAPOURS MAY CAUSE DROWSINESS AND DIZZINESS.
S18	HANDLE AND OPEN CONTAINER WITH CARE.
S23	DO NOT BREATHE VAPOUR
S24	AVOID CONTACT WITH SKIN.
S37	WEAR SUITABLE GLOVES.
S43	IN CASE OF FIRE USE SAND, CO ₂ , OR DRY CHEMICAL
S45	IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
S63	IN CASE OF ACCIDENT BY INHALATION: REMOVE CASUALTY TO FRESH AIR AND KEEP AT REST.

Contains isocyanates. See information supplied by the manufacturer.

Contains:

DIPHENYLMETHANE-4,4'-DI-ISOCYANATE
Thionophosphoric acid-tris-(p-isocyanatophenyl ester)

Danger labelling under regulations 67/548/EEC and 1999/45/EC and following amendments and adjustments.
Workers exposed to this chemical agent must undergo health checks according to regulation 98/24/EC.

16. Other information

Text of -R- phrases quoted in section 2 of the sheet.

R10	FLAMMABLE.
R11	HIGHLY FLAMMABLE.
R20	HARMFUL BY INHALATION.
R36	IRRITATING TO EYES.

R36/37/38	IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
R42	MAY CAUSE SENSITIZATION BY INHALATION.
R42/43	MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
R51/53	TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R66	REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING.
R67	VAPOURS MAY CAUSE DROWSINESS AND DIZZINESS.

GENERAL BIBLIOGRAPHY

1. Regulation 1999/45/CE and following amendments;
2. Regulation 67/548/CEE and following amendments and adjustments (XXIX A.T.P.);
3. Regulation 91/155/CEE and following amendments;
4. The Merck Index. - 10th Edition;
5. Handling Chemical Safety;
6. Niosh - Registry of Toxic Effects of Chemical Substances;
7. INRS - Fiche Toxicologique (toxicological sheet);
8. Patty - Industrial Hygiene and Toxicology;
9. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition;

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product .

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.