The Chemical Company

SAFETY DATA SHEET

THOROFLEX 200 SOLVENT

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

PRODUCT NAME: THOROFLEX 200 SOLVENT

PART No.: F000000

SUPPLIER: BASF Construction Chemicals (UK) Ltd
Albany House
Swinton Hall Road
Swinton Manchester M27 4DT

TEL: (+44) 161 794 7411
FAX: (+44) 161 727 8547

2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	EINECS No.	CAS No.	CONTENTS	SYMBOL	RISK (R No.)
TRICHLOROETHYLENE	201-167-4	79-01-6	60-100 %	T	45, 36/38, 52/53, 67, 52/53

The full text for all R-phrases are shown in section 16.

EU INDEX No.: 602-027-00-9
FORMULA: C2-H-Cl3
CAS No: 79-01-6

3 HAZARDS IDENTIFICATION

Limited evidence of a carcinogenic effect.
Carcinogen Category 3.

4 FIRST AID MEASURES

GENERAL: Consult a physician for specific advice.

INHALATION: Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Get prompt medical attention.

INGESTION: NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! If medical attention is not immediately available, Try to induce vomiting by having affected person touch back of the throat with his finger or by giving him syrup of ipecac as directed on the package. Get medical attention immediately! Physician should be warned not to use adrenalin! CAUTION! Some medical advisors recommend against induction of vomiting!

SKIN: Remove affected person from source of contamination. Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above.

EYES: Promptly wash eyes with plenty of water while lifting the eye lids. Get medical attention if any discomfort continues.

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5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Water spray, fog or mist. Use extinguishing media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES:
Keep run-off water out of sewers and water sources. Dike for water control. Cool containers exposed to flames with water until well after the fire is out. Stay away from ends of tanks. If risk of water pollution occurs, notify appropriate authorities.

UNUSUAL FIRE & EXPLOSION HAZARDS:
Unstable. May explode spontaneously. Possible container rupture. May develop highly toxic or corrosive fumes if heated.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS TO PROTECT ENVIRONMENT:
Avoid subsoil penetration. Prevent product from entering drains. Do not contaminate surface water.

SPILL CLEANUP METHODS: Absorb small quantities with paper towels and evaporate in safe place (fume hood). Allow sufficient time for vapours to completely clear the hood ducts, then burn the paper in a location away from combustible materials. Collect with absorbent, non-combustible material into suitable containers. Flush area with flooding amounts of water. Absorb in vermiculite, dry sand or earth and place into containers. Provide ventilation and confine spill. Do not allow runoff to sewer. Clean-up personnel should use respiratory and/or liquid contact protection.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS: Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Wear full protective clothing for prolonged exposure and/or high concentrations.

STORAGE PRECAUTIONS: Do not store in uninhibited state. Keep in cool, dry, ventilated storage and closed containers. Protect from light, including direct sun rays. Keep containers tightly closed.

STORAGE CRITERIA: Misc.hazardous material storage.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENT NAME	CAS No	STD	LT EXP (8 hrs)	ST EXP (15 min)
TRICHLOROETHYLENE	79-01-6	MEL	100 ppm(Sk)	150 ppm(Sk)

PROTECTIVE EQUIPMENT:

VENTILATION: Provide adequate general and local exhaust ventilation.

RESPIRATORS: CCROV, CCR with organic vapour cartridge. SA, Supplied-air respirator. SCBA, Self-contained breathing apparatus.

PROTECTIVE GLOVES: Use protective gloves made of: Polyvinyl alcohol (PVA). Viton rubber (fluor rubber).

EYE PROTECTION: Wear splash-proof eye goggles to prevent any possibility of eye contact.

OTHER PROTECTION: Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station. Wear appropriate clothing to prevent repeated or prolonged skin contact.

HYGIENIC WORK ROUTINES: Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. DO NOT SMOKE IN WORK AREA! Isolate contaminated clothing and wash

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before reuse.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Liquid. Clear. Mobile.	**COLOUR:**	Colourless.
ODOUR/TASTE:	Sweet. Chloroform.		
SOLUBILITY DESCRIPTION:	Insoluble in water.		
SOLUBILITY VALUE (g/100g H2O/20°C):	0.10	**MOL WEIGHT (AT WT):**	131.39
BOILING POINT (°C):	~86	**MELTING POINT (°C):**	~-86
SPECIFIC GRAVITY (Water=1):	1.46 @ 20 °C	**VAPOUR DENSITY (air=1):**	4.54
VAPOUR PRESSURE:	58.00 @ 20 °C	**EVAPORATION RATE:**	0.69
VOLATILE BY VOL.(%):	100	**ODOUR THRESHOLD (lower):**	20.00ppm
ODOUR THRESHOLD (upper):	ppm		
AUTO IGNITION TEMPERATURE (°C):	427		
FLAMMABILITY LIMIT (lower %):	12.50		
FLAMMABILITY LIMIT (upper %):	90		

10 STABILITY AND REACTIVITY

STABILITY: Unstable. Avoid: Long storage & large quantities. Storing in uninhibited state. Moisture. Light.

CONDITIONS TO AVOID: Avoid heat. Avoid contact with acids and oxidising substances.

HAZARDOUS POLYMERIZATION: May polymerize.

POLYMERIZATION DESCRIPTION: Monitor inhibitor content and polymer formation in stored material. Avoid heat, light & moisture.

MATERIALS TO AVOID: ALUMINIUM, ALUMINIUM POWDER, BARIUM, MAGNESIUM POWDER, MAGNESIUM,SOLID, NITROGEN DIOXIDE, OZONE, POTASSIUM HYDROXIDE, SODIUM, SODIUM HYDROXIDEAcids, oxidizing. Bases,alkalies (inorganic). Strong oxidizing agents. Strong reducing agents. Massive, solid metal. Powdered metal. Alkali metals. Alkali earth metals. Amines.

HAZARDOUS DECOMPOSITION PRODUCTS:

Toxic gases/vapours/fumes of: Hydrogen chloride (HCl). Phosgene (COCl2). Halogenated hydrocarbons.

11 TOXICOLOGICAL INFORMATION

TOXIC DOSE1- LD50: 4920mg/kg (oral rat)

TOXIC CONC.- LC50: 8000ppm/4h (inh-rat)

INHALATION: May cause irritation to the respiratory system. and lung damage

INGESTION: May cause discomfort if swallowed.

SKIN: Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

EYES: Spray and vapour in the eyes may cause irritation and smarting.

HEALTH WARNINGS: Irritant of eyes and mucous membranes. Narcotic effect. Known or suspected carcinogen for humans. Known or suspected teratogen. Known or suspected mutagen. Known or suspected tumorigen. Possible reproductive impact. CNS depressant.Conjunctivitis and lacrimation. Defatting, drying and cracking of skin. Chronic eczematous dermatitis (erythema, lichenification, fissuring). Keratosis (thickening of the horny layer of the skin). Liver and/or kidney damage. Swallowing concentrated chemical may cause severe internal injury. Unconsciousness, death.

OTHER HEALTH EFFECTS: EPA Carcinogen Assessment Group List. Consolidated carcinogen list. Carcinogen Category 3.

ROUTE OF ENTRY: Inhalation. Ingestion. Skin and/or eye contact.

TARGET ORGANS: Central nervous system. Eyes. Gastro-intestinal tract. Heart & cardiovascular system. Kidneys. Liver. Respiratory system, lungs. Skin.

MEDICAL SYMPTOMS: Irritation of eyes and mucous membranes. Dilated pupils. Irritation of nose due to vapour or dust contact. Upper respiratory irritation. General respiratory distress, unproductive cough. Arrhythmia, (deviation from normal heart beat). Cardiac arrest. Skin irritation.

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MEDICAL CONSIDERATIONS:	Nausea, vomiting. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Mild intoxication (incl. fatigue, lassitude, irritability, headache, nausea). Behavioral changes. Hypotension (low blood pressure). Chronic respiratory and obstructive airway diseases. Skin disorders and allergies. Liver and/or kidney problems. Convulsive disorders, CNS problems. Pre-existing heart problems.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS:	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Can be expected to biodegrade slowly

13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:	Recover and reclaim or recycle, if practical. Put in long term storage and/or return to manufacturer or supplier. Vent to atmosphere. Take mixture to a safe open place for atmospheric evaporation. Confirm disposal procedures with environmental engineer and local regulations. Refer to Croner's.

14 TRANSPORT INFORMATION

LABEL FOR CONVEYANCE:

ROAD:

UN No:	1710		
HAZARD CLASS (ADR):	Division 6.1:Toxic substances.	**ADR CLASS No:**	6.1
ADR ITEM No:	15(c)	**HAZARD No. (ADR):**	60
MARGINAL:	2601	**ADR LABEL No:**	6.1
HAZCHEM CODE:	2Z	**CEFIC TEC(R) No:**	723

RAIL:

RAIL TRANSPORT CLASS No:	6.1	**RAILROAD PT:**	15(c)

SEA:

SEA TRANSPORT CLASS No:	6.1	**IMDG Page No:**	6273
SEA PACK GR:	III	**EmS No.:**	6.1-02
MFAG Table No:	340	**MARINE POLLUTANT:**	No.

AIR:

AIR TRANSPORT CLASS No:	6.1	**AIR PACK GR:**	III

15 REGULATORY INFORMATION

EEC (EINECS) No.: 201-167-4

LABEL FOR SUPPLY:

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RISK PHRASES:	R-40	Limited evidence of a carcinogenic effect.
SAFETY PHRASES:	S-23	Do not breathe gas/fumes/vapour/spray.
	S-51	Use only in well ventilated areas.
	S-52	Not recommended for interior use on large surface areas.
	S-36/37	Wear suitable protective clothing and gloves.
	S-60	This material and its container must be disposed of as hazardous waste.

UK REGULATORY REFERENCES: Classification, Packaging and Labelling Regulations 1984.
Health and Safety at Work Act 1974.
The Control of Substances Hazardous to Health Regulations 1988.

APPROVED CODE OF PRACTICE: Classification and Labelling of Substances and Preparations Dangerous for Supply.

GUIDANCE NOTES: Occupational Exposure Limits EH40.
Introduction to Local Exhaust Ventilation HS(G)37.
CHIP for everyone HSG(108).

16 OTHER INFORMATION

INFORMATION SOURCES: Dangerous Properties of Industrial Chemicals, 6.edition, N.Sax, 1984.
OSHA Air Contaminants - Permissible Exposure Limits (Title 29).
Handbook of Toxic and Hazardous Chemicals and Carcinogens, Sittig, 1985.
Hazardous Materials, Emergency Response Guidebook, DOT-P 5800.3, 1984.
NFPA49. Hazardous Chemical Data, 1975.
Chemical Hazards of the Workplace, Proctor & Hughes, Lippincott, 1978
Threshold Limit Values and Biological Exposure Indices for 1985-86.
Kartotek for Kjemiske Stoffer, Vita-Data A/S, Norway.

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Issue 2

SDS No.: SDS0328

R-PHRASES (Full Text):	R-45	May cause cancer.
	R-36/38	Irritating to eyes and skin.
	R-52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
	R-67	Vapours may cause drowsiness and dizziness.