

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

TIP TOP REMACOAT A-70-S ISO

Art.-No.

590 2760, 590 2770

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Coating system for protection against wear and corrosion

1.3. Details of the supplier of the safety data sheet

Company name: TIP TOP Oberflächenschutz Elbe GmbH

Street: Heuweg 4

Place: D-06886 Wittenberg

Telephone: +49(0)3491/635-50

Telefax: +49(0)3491/635-552

Responsible for the safety data sheet: sds@gbk-ingelheim.de

1.4. Emergency telephone

INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)

number:

England and Wales: NHS Direct - 0845 4647; Scotland: NHS 24 - 08454 24 24
24

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: Xn - Harmful, Xi - Irritant

R phrases:

Harmful by inhalation.

Irritating to eyes, respiratory system and skin.

Limited evidence of a carcinogenic effect.

May cause sensitisation by inhalation and skin contact.

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

GHS classification

Hazard categories:

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory/skin sensitization: Resp. Sens. 1

Respiratory/skin sensitization: Skin Sens. 1

Carcinogenicity: Carc. 2

Specific target organ toxicity - single exposure: STOT SE 3

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazard Statements:

Harmful if inhaled.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause respiratory irritation.

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

Hazardous components which must be listed on the label

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-ethylenebis(isocyanatobenzene), methyloxirane and oxirane

Diphenylmethane-4,4'-diisocyanate

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate

Signal word:

Danger

Pictograms:

GHS07-GHS08

**Hazard statements**

H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P260	Do not breathe vapour/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.

Special labelling of certain mixtures

EUH204	Contains isocyanates. May produce an allergic reaction.
--------	---

2.3. Other hazards

Not known.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Preparation with isocyanates

Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
	Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-ethylenebis(isocyanatobenzene), methyloxirane and oxirane	60 - 100 %
157937-75-2	Carc. Cat. 3, Xn - Harmful, Xi - Irritant R20-36/37/38-40-42/43-48/20	
	Carc. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H351 H332 H315 H319 H334 H317 H335 H373	
202-966-0	Diphenylmethane-4,4'-diisocyanate	13 - 30 %
101-68-8	Carc. Cat. 3, Xn - Harmful, Xi - Irritant R40-20-48/20-36/37/38-42/43	
615-005-00-9	Carc. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H351 H332 H315 H319 H334 H317 H335 H373	
01-2119457014-47		
	Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	3 - 7 %
	Carc. Cat. 3, Xn - Harmful, Xi - Irritant R20-36/37/38-40-42/43-48/20	
	Carc. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H351 H332 H315 H319 H334 H317 H335 H373	
01-2119457015-45		

Full text of R-, H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

In the event of persistent symptoms receive medical treatment.

After inhalation

Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.

Refer for medical treatment.

After contact with skin

Remove immediately adhering matter.

Wash contaminated skin with plenty of water and soap or with liquid polyethylene glycol.

Consult a physician.

After contact with eyes

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Seek medical treatment by eye specialist.

After ingestion

Do not induce vomiting.

Rinse out mouth thoroughly with water. Never give anything by mouth to an unconscious person.

Summon a doctor immediately.

Induce vomiting only upon the advice of a physician.

4.2. Most important symptoms and effects, both acute and delayed

Harmful if inhaled.

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause respiratory irritation.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure if inhaled. (Respiratory system)

4.3. Indication of any immediate medical attention and special treatment needed

Keep under medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam, carbon dioxide (CO₂), dry chemical, water-spray.

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Fire may produce:

Carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x).

Hydrogen cyanide (HCN)

Isocyanates (NCO).

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

Additional information

Do not release chemically contaminated water into drains, soil or surface waters. Sufficient measures must be taken to retain water used for extinguishing.

Cool containers at risk with water spray jet.

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

In case of vapour formation use respirator.

Ensure adequate ventilation.
Use personal protective clothing.

6.2. Environmental precautions

Do not discharge into the drains/surface waters/ground water.
Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
Shovel into suitable container for disposal.
Container should not be gas-tight closed.
Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.

6.4. Reference to other sections

Observe protective instructions (see Sections 7 and 8).
Information for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Keep container tightly closed.
Avoid contact with the skin and the eyes.
Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapours.
When working with spray, exhaustion of air becomes indispensable.
Use only in thoroughly ventilated areas.

Advice on protection against fire and explosion

No special protective measures against fire required.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a dry, cool and well-ventilated place.

Advice on storage compatibility

Exothermic reaction with:

Acids and bases.
Water, amines, alcohols

Further information on storage conditions

Keep away from food, drink and animal feeding stuffs.
Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.

7.3. Specific end use(s)

Coating system for protection against wear and corrosion

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
-	Isocyanates, all (as -NCO) Except methyl isocyanate	-	0.02		TWA (8 h)	WEL
		-	0.07		STEL (15 min)	WEL

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Protective and hygiene measures

Do not inhale vapours.
Avoid contact with eyes and skin.
Wash hands before breaks and immediately after handling the product.

When using, do not eat, drink or smoke.

Take off immediately all contaminated clothing.

Eye/face protection

Tightly fitting goggles (EN 166).

Eye wash bottle with pure water (EN 15154).

Hand protection

Chemical protective gloves made of nitrile, nitrile/cotton, butyl or neoprene, with a minimum thickness of 0.7 mm, permeation time of approx. 480 minutes.

This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.

Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Pls. find examples in the protective gloves database under: <http://bestglove.com/site/chemrest/>

Skin protection

Long sleeved clothing (EN 368).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A) (EN 141).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	Amber	
Odour:	Musty	
Initial boiling point and boiling range:	293 °C	
Flash point:	227 °C	Closed cup
Lower explosion limits:	n.d.	
Upper explosion limits:		
Vapour pressure:	n.d.	
(at 25 °C)		
Density (at 25 °C):	1,13 g/cm³	
Water solubility:	Reacts with water.	
Ignition temperature:	n.d.	
Viscosity / dynamic:	1500 - 1900 mPa·s	
(at 25 °C)		

9.2. Other information

No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if stored and applied as directed.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reactions with strong acids and alkalies.

Reacts with: Water, amines, alcohols

10.4. Conditions to avoid

Vapours may form explosive mixture with air.

Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.

10.5. Incompatible materials

Acids and bases.

Water, amines, alcohols

10.6. Hazardous decomposition products

Hydrogen cyanide gas.

Carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x).

Isocyanates

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful if inhaled.

No toxicological data available.

Irritation and corrosivity

Causes serious eye irritation.

Causes skin irritation.

Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-ethylenebis(isocyanatobenzene), methyloxirane and oxirane), (Diphenylmethane-4,4'-diisocyanate), (Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate)

May cause an allergic skin reaction. (Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-ethylenebis(isocyanatobenzene), methyloxirane and oxirane), (Diphenylmethane-4,4'-diisocyanate), (Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate)

STOT-single exposure

May cause respiratory irritation. (Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-ethylenebis(isocyanatobenzene), methyloxirane and oxirane), (Diphenylmethane-4,4'-diisocyanate), (Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate)

Severe effects after repeated or prolonged exposure

May cause damage to organs through prolonged or repeated exposure. (Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-ethylenebis(isocyanatobenzene), methyloxirane and oxirane), (Diphenylmethane-4,4'-diisocyanate), (Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-ethylenebis(isocyanatobenzene), methyloxirane and oxirane), (Diphenylmethane-4,4'-diisocyanate), (Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate)

Aspiration hazard

Based on available data, the classification criteria are not met.

Additional information on tests

Classification in compliance with the assessment procedure specified in the Regulation (EC) no 1272/2008.

Practical experience

Other observations

With hypersensitive people, reactions as cough or difficulty of breathing may appear even with tiny concentrations of isocyanates; therefore keep room aerated and ventilated.

SECTION 12: Ecological information

12.1. Toxicity

Ecological data are not available.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

12.6. Other adverse effects

Low hazard to waters.

The product contains organically halogen, it can contribute to the adsorbable organic halogen value.

Further information

In aqueous systems, formation of insoluble and chemically inert (inactive) polyureas.

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Where possible recycling is preferred to disposal.

Can be incinerated, when in compliance with local regulations.

Waste disposal number of waste from residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other dangerous substances
Classified as hazardous waste.

Contaminated packaging

Contaminated packagings are to be treated like the product itself.

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

Packaging that cannot be cleaned should be disposed of like the product.

SECTION 14: Transport information

Land transport (ADR/RID); Marine transport (IMDG); Air transport (ICAO); Inland waterways transport (ADN)

14.1. UN number:

No hazardous material as defined by the transport regulations.

14.2. UN proper shipping name:

No hazardous material as defined by the transport regulations.

14.3. Transport hazard class(es):

No hazardous material as defined by the transport regulations.

14.4. Packing group:

No hazardous material as defined by the transport regulations.

14.5. Environmental hazards

No hazardous material as defined by the transport regulations.

14.6. Special precautions for user

No hazardous material as defined by the transport regulations.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No hazardous material as defined by the transport regulations.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

1999/13/EC (VOC): 0 %

National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Abbreviations and acronyms

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route

RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses

ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure

IMDG = International Maritime Code for Dangerous Goods

IATA/ICAO = International Air Transport Association / International Civil Aviation Organization

MARPOL = International Convention for the Prevention of Pollution from Ships

IBC = Code International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

REACH = Registration, Evaluation, Authorization and Restriction of Chemicals

CAS = Chemical Abstract Service

EN = European norm

ISO = International Organization for Standardization

DIN = Deutsche Industrie Norm

PBT = Persistent Bioaccumulative and Toxic

LD = Lethal dose

LC = Lethal concentration

EC = Effect concentration

IC = Median immobilisation concentration or median inhibitory concentration

Relevant R-phrases (Number and full text)

20 Harmful by inhalation.

36/37/38 Irritating to eyes, respiratory system and skin.

40 Limited evidence of a carcinogenic effect.

42/43 May cause sensitisation by inhalation and skin contact.

48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Relevant H- and EUH-phrases (Number and full text)

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

EUH204 Contains isocyanates. May produce an allergic reaction.

Further Information

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

(n.a. = not applicable; n.d. = not determined)

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)