

**SECTION 1: SUBSTANCE/MIXTURE IDENTIFICATION AND MANUFACTURER/SUPPLIER IDENTIFICATION**

**1.1. Product identification**  
**ADHESION INCREASING AGENT**

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

For professional use in car refinsh.

**1.3. Data of the safety data sheet supplier**

**Przedsiębiorstwo RANAL Sp. z o.o.**

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**1.4. Emergency telephone**

+48 34 329 45 03 (8.00am - 03.00pm)

**SECTION 2: HAZARDS IDENTIFICATION**

**2.1. Classification of the substance or mixture**

The mixture was classified as dangerous according to current regulations – see section 15.

Classification 1272/2008/EC:

Harmful to reproduction, hazard category 2 (Repr. 2.). Suspected of damaging the unborn child.

Aspiration hazard, hazard category 1 (Asp. Tox. 1). May be fatal if swallowed and enters airways.

Toxic effect on target organs – repeated exposure, hazard category 2 (STOT RE 2). May cause damage to organs through prolonged or repeated exposure.

Irritating effect on skin, hazard category 2 (Skin Irrit. 2). Causes skin irritation.

Toxic effect on target organs – single exposure, hazard category 3, narcotic effect (STOT SE 3). May cause drowsiness or dizziness.

Flammable liquids hazard category 2 (Flam. Liq. 2). Highly flammable liquid and vapour.

**2.2. Label elements**

Contains:  
Toluene.

Pictograms:



Warning word: **Danger**.

Risk index:

H225 Highly flammable liquid and vapour.  
H361d Suspected of damaging the unborn child.  
H304 May be fatal if swallowed and enters airways.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H315 Causes skin irritation.  
H336 May cause drowsiness or dizziness.

Safety index:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260 Do not breathe vapour / spray.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+310 IF SWALLOWED: Immediately call a doctor.  
P331 Do NOT induce vomiting.

**2.3. Other hazards**

No data.

**SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS****3.1. Substances**

Not applicable.

**3.2. Mixtures****Product identification**

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Substance name  
Concentration [% weight]  
Identification numbers  
Classification and labelling

Toluene  
44-49%  
EC: 203-625-9  
CAS: 108-88-3  
Index No: 601-021-00-3  
Registration No: 01-2119471310-51-XXXX  
Flam. Liq. 2, H225; Repr. 2, H361d; Asp. Tox. 1; STOT RE 2, H304; H373; Skin Irrit. 2, H315; STOT SE 3, H336.

Butyl acetate  
42-48%  
EC: 204-658-1  
CAS: 123-86-4  
Index No: 607-025-00-1  
Registration No: 01-2119485493-29-XXXX  
Flam. Liq. 3, H226; STOT SE 3, H336.

Full text of the phrases identifying the types of hazard provided in section 16.

**SECTION 4: FIRST AID MEASURES****4.1. Description of first aid measures**

General information:  
See section 11 of the Material Safety Data Sheet.

Respiratory system:  
Take the victim outside to the fresh air, ensure quiet surrounding, and in case of no breath ensure artificial respiration.  
**Call a doctor.**

Skin:  
Take off contaminated clothing. Rinse contaminated skin with plenty of lukewarm water for about 15 min. If irritation persists consult a doctor.

Eyes:  
Rinse immediately with plenty of water for about 15 min, avoid strong water jet- risk of cornea damage, consult a doctor.

Alimentary tract:  
Do not cause vomiting (choking risk).  
Rinse mouth with water. If conscious, administer 1-2 glasses of warm water.  
Call a doctor.  
Person giving first aid should wear medical gloves.

**4.2. Most important symptoms both acute and delayed**

May cause damage to organs through prolonged or repeated exposure. Vapours may cause drowsiness or dizziness.

**4.3. Indications of any immediate medical attention and special treatment needed**

Special measures allowing for specialist and immediate aid should be available in the place of work.

**SECTION 5: FIREFIGHTING MEASURES****5.1. Extinguishing media**

Powder, foam resistant to alcohols, carbon dioxide, water mist.

**5.2. Special hazards arising from the substance or mixture**

Carbon monoxide and other toxic gases may be generated in case of fire.

**5.3. Advice for firefighters**

Fire-fighting teams should wear self-contained breathing apparatus and light protective clothing. Cool adjacent tanks by spraying water from a safe distance.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**6.1. Personal precautions, protective equipment and emergency measures**

For persons not being members of aid giving staff:

Remove ignition sources. Ensure sufficient ventilation of the room. Avoid direct contact with the released substance. Avoid contact with skin and eyes. Personal safety measures – see section 8 of Material Safety Data Sheet.

For persons being the members of aid giving staff:

Persons giving aid should wear protective clothing made of coated impregnated fabric, protective gloves (viton), tight protective glasses and breathing apparatus: gas mask with A type absorber.

**6.2. Environmental precautions**

Prevent leakage to the sewage system, surface waters, underground waters and soil.

**6.3. Methods and materials for containment and cleaning up**

Stop the leakage (close the liquid inflow, seal), place damaged container in an emergency container, remove the liquid mechanically and place it in an emergency container. In case of large leakage embank the area. In case of small amounts, collect with the use of a binding agent (e.g. mica, diatomaceous earth, sand).

**6.4. Reference to other sections**

Personal protection measures– see section 8 of the Material Safety Data Sheet.

Disposal considerations – see section 13 of the Material Safety Data Sheet.

**SECTION 7: HANDLING AND STORAGE OF SUBSTANCES AND MIXTURES**

**7.1. Precautions for safe handling**

Keep away from heat and sources of ignition. Prevent leakage to the sewage system, surface waters, underground waters and soil. Use only in well ventilated rooms. Do not smoke. Do not inhale vapours. Avoid contact with skin and eyes. Take precaution measures against electrostatic discharge. Use personal protection measures – see section 8 of the Material Safety Data Sheet.

**7.2. Conditions for safe storage, including any incompatibilities**

Store in well sealed original containers. Do not store near large amounts of organic peroxides or other strong oxidants. Take precaution measures against electrostatic discharge. Store in cool, well ventilated rooms.

Protect from low temperatures, the sunrays and heat sources.

**7.3. Special end use (s)**

An agent increasing adhesion of polyurethane and acrylic products to various substrates. For professional use in car body refinish taking into consideration the information included in subsections 7.1 and 7.2.

**SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION MEASURES**

**8.1. Control parameters**

<b>CAS NUMBER</b>	108-88-3
<b>SUBSTANCE</b>	Toluene
<b>MPC (mg/m<sup>3</sup>)</b>	100
<b>MPIC (mg/m<sup>3</sup>)</b>	200
<b>MPCC (mg/m<sup>3</sup>)</b>	---

National acceptable biological values:

<b>CAS NUMBER</b>	108-88-3	
<b>SUBSTANCE ABSORBED</b>	Toluene	Toluene
<b>SUBSTANCE MARKED</b>	o-cresol	
<b>BIOLOGICAL MATERIAL</b>	urine**	capillary blood***
<b>PCB VALUES</b>	0.3 mg/l	0.3 mg/l

Notice: \* single sample, taken at the end of a daily exposure any day.

PN-EN 482:2009	Occupational exposure – General requirements for the characteristics of procedures of measurements of chemical factors.
PN-EN-689: 2002	Workplace atmospheres. Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values.
PN Z-04008-7:2002	Protection of air cleanliness. Sampling. Principles of air sampling in the work environment and interpretation of results

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- PN-78/Z-04116.01 Protection of air cleanliness – Control of xylene content – Marking xylene at workplaces by the method of gas chromatography with sample enrichment
- PN-78/Z-04115.01 Protection of air cleanliness – control of toluene content – marking toluene at workplaces by the method of gas chromatography.
- PN-79/Z-04081.01 Protection of air cleanliness – control of ethylbenzene content – marking ethylbenzene at workplaces by the method of gas chromatography with sample enrichment.

**8.2. Exposure control**

Respiratory tract protection:

Gas mask with A type absorber (EN 141).

Hand protection:

Protective gloves PN-EN 374-3 (viton, 0.7 mm thick, penetration time >480 min., nitril rubber, 0.4 mm thick, penetration time >30 min.).

Eyes protection:

Tight protective glasses.

Skin protection:

Proper protective clothing (coated, impregnated fabrics).

Workplace:

Fixed fume extraction and general ventilation.

Environmental exposure control:

Prevent leakage to the sewage system, surface waters, underground waters and soil.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1. Information on basic physical and chemical properties**

Physical state	liquid
Colour	straw colour
Odour	strong, powerful
Odour threshold	8 mg/m <sup>3</sup> (toluene)
Melting/freezing point	-95°C (toluene)
Boiling point	110-140°C
Flash point	6°C
Autoignition point	270°C
Breakdown point	not specified
Evaporation rate	not specified
Flammability (solid, gas)	not applicable
Explosion limits	% bottom: 1.2 vol%, top: 7.0 vol% (toluene)
Vapour pressure	29 hPa (20°C) (toluene)
Vapour density (with regard to air)	3.18 (toluene)
Density	no data
Solubility (in water)	poor
n-octanol/water partition coefficient	2.85 (toluene)
Kinematic viscosity	no data
Explosive properties	not applicable
Oxidizing properties	not applicable

**9.2. Other information**

No data.

**SECTION 10: STABILITY AND REACTIVITY**

**10.1. Reactivity**

Product not reactive under normal conditions.

**10.2. Chemical stability**

Product stable under normal conditions.

**10.3. Possibility of hazardous reactions**

Carbon monoxide and other toxic gases are generated as a result of thermal decomposition.

**10.4. Conditions to be avoided**

Highly flammable product. Avoid contact with strong oxidants, peroxides, strong acids and bases. Avoid generation and accumulation of static electricity. Protect from the influence of sunrays and heat sources.

**10.5. Incompatible materials**

Avoid contact with large amounts of organic peroxides, strong acids and bases, as well as other strong oxidants

**10.6. Hazardous decomposition products**

Carbon monoxide and other toxic gases are generated as a result of thermal decomposition.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects**

No experimental data available on the preparation. Evaluation based on the data on dangerous ingredients included in the preparation.

**a) Acute toxicity**

Toluene

LD50 (rat, ingestion) 5000 mg/kg

LC50 (rat, inhalation) 15320 mg/m<sup>3</sup>/4h

**b) Caustic/irritating effect on skin**

Causes skin irritation.

**c) Serious eye damage/eye irritation**

No available data confirming the hazard class.

**d) Allergic effects on skin or respiratory tract**

The mixture is not classified as allergenic. No available data confirming the hazard class.

**e) Mutagenic effect on germ cells**

The mixture is not classified as mutagenic. No available data confirming the hazard class.

**f) Carcinogenicity**

The mixture is not classified as carcinogenic. No available data confirming the hazard class.

**g) Harmful effect on reproduction**

Suspected of damaging the unborn child.

**h) Toxic effect on target organs – single exposure**

May cause drowsiness or dizziness.

**i) Toxic effect on target organs – repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**j) Aspiration hazard**

May be fatal if swallowed and enters airways.

Exposure methods:

Respiratory system: Harmful if inhaled.

Skin: Causes skin irritation.

Eyes: Irritating effect.

Alimentary tract: May be fatal if swallowed and enters airways. If swallowed the substance may cause irritation of the alimentary tract, nausea, vomiting and diarrhea.

Poisoning symptoms:

Headaches and dizziness, fatigue, decreased muscle power, drowsiness and in exceptional instances loss of consciousness.

Vapours may cause drowsiness and dizziness.

**SECTION 12: ECOLOGICAL INFORMATION**

No experimental data available on the preparation. Evaluation based on the data on dangerous ingredients included in the preparation.

**12.1. Toxicity**

Toluene

*Daphnia magna* EC50 (48 h): 11 mg/l

Acute toxicity for fish LC50 (96 h): 13 mg/l

Number in catalogue of water hazardous substances: 194

Water hazard class: 2

**12.2. Persistence and degradability**

No data.

**12.3. Bioaccumulative potential**

Toluene  
n-octanol/water partition coefficient 2.65

**12.4. Mobility in soil**

Very poorly soluble in water.

**12.5. Results of PBT and vPvB assessment**

No data available.

**12.6. Other hazardous effects**

No data available.

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1. Waste treatment methods**

Product must be disposed of in compliance with the proper local and statutory regulations with regard to waste – see section 15. Forward to entities that have been authorized to collect, recover or dispose of waste.

Product remains:

Waste code: 08 01 11\*

Waste paints and varnishes containing organic solvents or other dangerous substances. Do not dispose the product into the sewage system. Do not store with communal waste. Remove the remains of the product from the container and let it dry completely (only in well ventilated rooms).

**CAUTION:** Let the remains dry only in well ventilated rooms away from flammable products.

Contaminated container:

A contaminated container containing remains of the product is harmful waste.

Waste code: 15 01 10\*

Packaging containing residues of or contaminated by dangerous substances (e.g. pesticides of I and II class of toxicity – very toxic and toxic). Do not store with communal waste. The contaminated container should be disposed with entities which are authorized to collection, recover o disposal.

**SECTION 14: TRANSPORT INFORMATION**

ADR/RID  
IMO/IMGD  
IATA-DGR

**14.1. UN number**

1993

1993

1993

**14.2. UN proper shipping name**

FLAMMABLE LIQUID, N.O.S. (toluene)

**14.3. Transport hazard class (es)**

3

3

3

**14.4. Packaging group**

II

II

II

**14.5. Environmental hazards**

No

No

No

**14.6. Special precautions for user**

Do not transport together with products of class 1 (except products of class 1.4S), and some products of class 4.1 and 5.2. During the transport avoid direct contact with products of class 5.1 and 5.2. Do not use an open flame and do not smoke.

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 Convention and the IBC Code**

Not applicable.

**SECTION 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations / legislations specific for the substance or mixture**

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.
- Official Journal of the EU L 136 of May 29 2007 with later amendments, Official Journal of the EU L 304 of November 22 2007, Official Journal of the EU L268 of October 9 2008, Official Journal of the EU L 46 of February 17 2009, Official Journal of the EU L164 of June 26 2009, Official Journal of the EU L133/1 of May 31 2010.
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Official Journal of EU L 353 of December 31 2008).
- Commission Regulation (EC) No 790/2009 of August 10 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.

**15.2. Chemical safety assessment**

Not performed.

**SECTION 16: OTHER INFORMATION**

Full text of the phrases identifying the types of hazard and H phrases mentioned in sections 2-15 of the Sheet:

Flam. Liq. 2	Flammable liquids, cat. 2.
Flam. Liq. 3	Flammable liquids, cat. 3.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
Asp. Tox. 1	Aspiration hazard.
H304	May be fatal if swallowed and enters airways.
STOT RE 2	Toxic effect on target organs – repeated exposure, cat. 2.
H373	May cause damage to organs through prolonged or repeated exposure.
Repr. 2	Harmful to reproduction, cat. 2.
H361d	Suspected of damaging the unborn child.
STOT SE 3	Toxic effect on target organs – single exposure, cat. 3
H336	May cause drowsiness or dizziness.
Acute Tox. 4	Acute toxicity, cat. 4.
H332	Harmful if inhaled.
H312	Harmful in contact with skin.
Skin Irrit. 2	Caustic /irritating effect in skin, cat. 2.
H315	Causes skin irritation, cat. 2.

Explanations of the abbreviations and acronyms used in the Material Safety Data Sheet:

CAS No	numerical symbol ascribed to a chemical substance by the American organization Chemical Abstracts Service.
EC No	a number ascribed to a chemical substance in the European List of Notified Chemical Substances (ELINCS), or a number in the European Inventory of Existing Chemical Substances (EINECS), or number in the list the chemical substances mentioned in the publication "No-longer polymers".
MPC	maximum permissible concentration of health hazardous substances in the work place.
MPIC	maximum permissible instantaneous concentration.
MPCC	maximum permissible ceiling concentration.
PCB	permissible concentration in biological material.
UN number	four-digit identification number of a substance, preparation or product pursuant to UN model regulations.
ADR	European Agreement Concerning International Carriage of Dangerous Goods by Road.
IMO	International Maritime Organization.
RID	Regulation for International Rail Transport of Dangerous Goods.
IMDG-Code	International Maritime Dangerous Goods Code.
ICAO /IATA	Technical Instructions for Safe Air Transport of Dangerous Goods.

Classification based on calculation method according to classification rules included in Regulation 1272/2008/EC.

Other data sources:

ECHA European Chemicals Agency  
TOXNET Toxicology Data Network

Changes in the Sheet compared to the previous version:

1.3, general update.

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