

SAFETY DATA SHEET TKO ACID TEST KIT

According to Regulation (EU) No 453/2010

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	TKO ACID TEST KIT	
Product No.	тко	
Container size	59.15 millilitres.(0.059 Ltr)	
1.2. Relevant identified uses of the substance or mixture and uses advised against		

Identified uses Uses advised against Refrigeration Oil Acid Test Kit.

No uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier

Parker Hannifin Ltd Cortonwood Drive Brampton Barnsley South Yorkshire S73 0UF Tel:+44 1226 273400 email:europecold@parker.com

1.4. Emergency telephone number

+1-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Classification (1999/45/EEC)

Physical and Chemical Hazards	Flam. Liq. 2 - H225
Human health	Skin Irrit. 2 - H315;Repr. 2 - H361d;STOT SE 3 - H336;STOT RE 2 -
	H373;Asp. Tox. 1 - H304
Environment	Not classified.
Xn;R48/20, R65. Repr. Cat. 3;R6	i3. Xi;R38. F;R11. R67.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Human health

Inhalation of vapour or mist may cause lung oedema. Contains a substance/a group of substances which may cause harm to the unborn child.

Physical and Chemical Hazards

The product is highly flammable, and explosive vapours/air mixtures may be formed even at normal room temperatures.

2.2. Label elements

Contains TOLUENE

Label In Accordance With (EC) No. 1272/2008



Signal Word Hazard Statements Danger

H304 H315

H225

Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation.

TKO ACID TEST KIT			
	H336	May cause drowsiness or dizziness.	
	H361d	Suspected of damaging the unborn child.	
	H373	May cause damage to organs through prolonged or repeated exposure.	
Precautionary Statements			
	P210	Keep away from heat/sparks/open flames/hot surfaces No smoking.	
	P271	Use only outdoors or in a well-ventilated area.	
	P281	Use personal protective equipment as required.	
	P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.	
	P308+313	IF exposed or concerned: Get medical advice/attention.	
	P332+313	If skin irritation occurs: Get medical advice/attention.	
Supplementary Precautionary Staten	nents		
	P201	Obtain special instructions before use.	
	P202	Do not handle until all safety precautions have been read and understood.	
	P233	Keep container tightly closed.	
	P240	Ground/bond container and receiving equipment.	
	P241	Use explosion-proof electrical equipment.	
	P242	Use only non-sparking tools.	
	P243	Take precautionary measures against static discharge.	
	P280	Wear protective gloves/protective clothing/eye protection/face protection.	
	P260	Do not breathe vapour/spray.	
	P261	Avoid breathing vapour/spray.	
	P264	Wash contaminated skin thoroughly after handling.	
	P321	Specific treatment (see medical advice on this label).	
	P370+378	In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.	
	P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.	
	P302+352	IF ON SKIN: Wash with plenty of soap and water.	
	P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.	
	P312	Call a POISON CENTER or doctor/physician if you feel unwell.	
	P314	Get medical advice/attention if you feel unwell.	
	P331	Do NOT induce vomiting.	
	P362	Take off contaminated clothing and wash before reuse.	
	P403+233	Store in a well-ventilated place. Keep container tightly closed.	
	P403+235	Store in a well-ventilated place. Keep cool.	
	P405	Store locked up.	
	P501	Dispose of contents/container to	

2.3. Other hazards

This product does not contain any PBT or vPvB substances.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

ETHANOL			30-60%
CAS-No.: 64-17-5	EC No.: 200-578-6		
Classification (EC 1272/2008) Flam. Liq. 2 - H225		Classification (67/548/EEC) F;R11	
TOLUENE			30-60%
CAS-No.: 108-88-3	EC No.: 203-625-9		
Classification (EC 1272/2008)		Classification (67/548/EEC)	
Flam. Liq. 2 - H225		F;R11	
Skin Irrit. 2 - H315		Repr. Cat. 3;R63	
Repr. 2 - H361d		Xn;R48/20,R65	
STOT SE 3 - H336		Xi;R38	
STOT RE 2 - H373		R67	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information

CAUTION! First aid personnel must be aware of own risk during rescue! NOTE! Keep affected person away from heat, sparks and flames!

Inhalation

Remove victim immediately from source of exposure. Provide fresh air, warmth and rest, preferably in a comfortable upright sitting position. Get medical attention.

Ingestion

NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Rinse mouth thoroughly. Get medical attention.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Continue to rinse for at least 15 minutes. Contact physician if irritation continues.

Eye contact

Make sure to remove any contact lenses from the eyes before rinsing. Immediately rinse with water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

General information

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation.

In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects. **Ingestion**

May cause nausea, headache, dizziness and intoxication.

Skin contact

Prolonged contact may cause redness, irritation and dry skin.

Eye contact

Prolonged contact may cause redness and/or tearing.

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

No specific treatment is required.Symptomatic treatment is advised.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

In case of fire, toxic gases (CO, CO2, NOx) may be formed.

Unusual Fire & Explosion Hazards

Heat may cause the containers to explode. Solvent vapours may form explosive mixtures with air. May travel considerable distance to source of ignition and flash back.

Specific hazards

In case of fire, toxic gases may be formed.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Keep up-wind to avoid fumes. Avoid breathing fire vapours. Move container from fire area if it can be done without risk. Use water to keep fire exposed containers cool and disperse vapours.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid inhalation of vapours and contact with skin and eyes. Do not smoke, use open fire or other sources of ignition.

6.2. Environmental precautions

The product should not be dumped in nature but collected and delivered according to agreement with the local authorities.

6.3. Methods and material for containment and cleaning up

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Stop leak if possible without risk. DO NOT touch spilled material! Ventilate well. Absorb in vermiculite, dry sand or earth and place into containers. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Clean contaminated area with oil-removing material.

6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Keep away from heat, sparks and open flame. Eliminate all sources of ignition. Provide good ventilation. Avoid inhalation of vapours/spray and contact with skin and eyes. Static electricity and formation of sparks must be prevented. Use explosion proof electric equipment. Risk of vapour concentration on the floor and in low-lying areas. Pregnant women should not work with the product, if there is the least risk of exposure.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Store in tightly closed original container in a dry, cool and well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks.

Storage Class

Flammable liquid storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	STD	TWA	- 8 Hrs	STEL	- 15 Min	Notes
ETHANOL	WEL	1000 ppm	1920 mg/m3			
TOLUENE	WEL	50 ppm	191 mg/m3	100 ppm	384 mg/m3	Sk

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through skin.

8.2. Exposure controls

Protective equipment



Engineering measures

Provide adequate general and local exhaust ventilation. Provide explosion proof ventilation for high concentrations.

Respiratory equipment

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit. Chemical respirator with organic vapour cartridge.

Hand protection

Wear protective gloves. Use protective gloves made of: Viton rubber (fluor rubber).

Eye protection

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

Other Protection

Provide eyewash station.

Hygiene measures

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. When using do not eat, drink or smoke.

Skin protection

Wear apron or protective clothing in case of contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Clear liquid

Colour	Colourless.
Odour	Solvent.
Solubility	Slightly soluble in water.
Initial boiling point and boiling range	77.8°C
Melting point (°C)	
Not available.	
Relative density	0.86
Bulk Density	
Not available.	
Vapour density (air=1)	1.6
Vapour pressure	19 mm Hg
Evaporation rate	<1 (ButAc=1)
Evaporation Factor	
Not available.	
pH-Value, Conc. Solution	
Not determined.	
pH-Value, Diluted Solution	
Not determined.	
Viscosity	
Not available.	
Solubility Value (G/100G H2O@20°C	c)
Not available.	
Decomposition temperature (°C)	
Not available.	
Odour Threshold, Lower	
Not available.	
Odour Threshold, Upper	
Not available.	
Flash point	4.4°C Cd OC (Cleveland open cup).
Auto Ignition Temperature (°C)	
Not available.	
Flammability Limit - Lower(%)	1.4
Flammability Limit - Upper(%)	7.0
Partition Coefficient	
(N-Octanol/Water) Not available.	
9.2. Other information	

Volatile Organic Compound (VOC) 860 g/litre

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No specific reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Not available. Hazardous Polymerisation Will not polymerise. 10.4. Conditions to avoid

Avoid heat, flames and other sources of ignition. **10.5. Incompatible materials**

Materials To Avoid

Strong oxidising substances. 10.6. Hazardous decomposition products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Other Health Effects

Toxic to Reproductive Health Category 3.

General information

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

Inhalation

Harmful by inhalation. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Vapours may cause drowsiness and dizziness.

Ingestion

Harmful: may cause lung damage if swallowed. May cause nausea, headache, dizziness and intoxication.

Skin contact

Irritating to skin. Prolonged and frequent contact may cause redness and irritation.

Eye contact

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

Health Warnings

Solvent vapours are hazardous and may cause nausea, sickness and headaches.

Route of entry

Inhalation. Skin and/or eye contact. Ingestion.

Target Organs

Skin Respiratory system, lungs

Medical Symptoms

Mild intoxication (incl. fatigue, lassitude, irritability, headache, nausea).

Medical Considerations

Avoid vomiting and normal rinse of stomach because of risk of aspiration. Risk of chemical pneumonia after aspiration.

Specific effects

Contains a substance/a group of substances which may cause harm to the unborn child.

Toxicological information on ingredients.

TKO ACID TEST KIT TOLUENE (CAS: 108-88-3)

Acute toxicity:

Acute Toxicity (Oral LD50) > 5000 mg/kg Rat REACH dossier information Based on available data the classification criteria are not met.

Acute Toxicity (Dermal LD50)

> 5000 mg/kg Rat REACH dossier information Based on available data the classification criteria are not met.

Acute Toxicity (Inhalation LC50)

> 20 mg/L air Rat 4 hours REACH dossier information

Skin Corrosion/Irritation:

Erythema\eschar score Well defined erythema (2).

Oedema score

Very slight oedema -barely perceptible (1). Estimated Value REACH dossier information Irritating.

Serious eye damage/irritation:

Not Irritating.

Respiratory or skin sensitisation:

Respiratory sensitisation Data lacking. REACH dossier information Conclusive data but not sufficient for classification. Skin sensitisation Guinea pig maximization test (GPMT): Guinea Pig REACH dossier information Not Sensitising.

Germ cell mutagenicity:

Genotoxicity - In Vitro Gene Mutation: REACH dossier information Negative. This substance has no evidence of mutagenic properties. Genotoxicity - In Vivo Chromosome aberration: REACH dossier information Negative.

Carcinogenicity:

Carcinogenicity NOAEC 1200 ppm Inhalation. Rat REACH dossier information No evidence of carcinogenicity in animal studies

Reproductive Toxicity:

Reproductive Toxicity - Fertility

Two-generation study: NOAEC 500 ppm Inhalation. Rat F1 REACH dossier information

Reproductive Toxicity - Development

Developmental toxicity: NOAEC 600 ppm Inhalation. Rat

Specific target organ toxicity - repeated exposure: STOT - Repeated exposure LOAEC 600 Inhalation. Rat REACH dossier information

Aspiration hazard: Viscosity Kinematic viscosity <= 20.5 mm2/s. REACH dossier information

TKO ACID TEST KIT ETHANOL (CAS: 64-17-5)

Acute toxicity:

Acute Toxicity (Oral LD50) 10470 mg/kg Rat REACH dossier information Based on available data the classification criteria are not met.

Acute Toxicity (Dermal LD50)

> 15800 mg/kg Rabbit
 REACH dossier information
 Based on available data the classification criteria are not met.

Acute Toxicity (Inhalation LC50)

125 mg/l (vapours) Rat 4 hours REACH dossier information Based on available data the classification criteria are not met.

Skin Corrosion/Irritation:

Dose 0.2mL 24 hr Rat Erythema\eschar score No erythema (0). Oedema score No oedema (0). REACH dossier information Not irritating.

Serious eye damage/irritation: Slightly Irritating. Respiratory or skin sensitisation: Respiratory sensitisation Not available. There is no evidence that the material can lead to respiratory hypersensitivity. Skin sensitisation Local Lymph Node Assay (LLNA) Mouse REACH dossier information

Not Sensitising.

Germ cell mutagenicity: Genotoxicity - In Vitro Bacterial Reverse Mutation Test REACH dossier information Negative.

This substance has no evidence of mutagenic properties.

Genotoxicity - In Vivo

Chromosome aberration: REACH dossier information Negative. This substance has no evidence of mutagenic properties.

Carcinogenicity: Carcinogenicity Not available.

Reproductive Toxicity: Reproductive Toxicity - Fertility Not available. This substance has no evidence of toxicity to reproduction. Reproductive Toxicity - Development

Developmental toxicity: LOAEL 8200 mg/kg/day Oral Rat REACH dossier information Conclusive data but not sufficient for classification.

Specific target organ toxicity - single exposure:

STOT - Single exposure

Not available.

Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure:

STOT - Repeated exposure

Not available.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.1. Toxicity

Ecological information on ingredients.

TOLUENE (CAS: 108-88-3)

Acute Toxicity - Fish

LC50 96 hours 5.5 mg/l Freshwater fish REACH dossier information **Acute Toxicity - Aquatic Invertebrates** EC50 48 hours 3.78 mg/l Freshwater invertebrates REACH dossier information **Acute Toxicity - Aquatic Plants** EC50 3 hours 134 mg/l Freshwater algae REACH dossier information

ETHANOL (CAS: 64-17-5)

Acute Toxicity - Fish

LC50 96 hours 15.3 mg/l Pimephales promelas (Fat-head Minnow) REACH dossier information Acute Toxicity - Aquatic Invertebrates EC50 48 hours 5012 mg/l Daphnia magna REACH dossier information Acute Toxicity - Aquatic Plants Not available.

12.2. Persistence and degradability

Degradability

There are no data on the degradability of this product.

TOLUENE (CAS: 108-88-3)

Phototransformation

Air. DT50 2.59 days REACH dossier information **Stability (Hydrolysis)** Scientifically unjustified. REACH dossier information **Biodegradation** Water (69%) ~ 5 days Estimated Value REACH dossier information

ETHANOL (CAS: 64-17-5)

Phototransformation
Not available.
Stability (Hydrolysis)
Not available.
Biodegradation
Water Degradation ((74%)%) 5 days
REACH dossier information

12.3. Bioaccumulative potential

Bioaccumulative potential

Bioaccumulation is unlikely to be significant because of the low water solubility of this product.
Partition coefficient
Not available.

Ecological information on ingredients.

TOLUENE (CAS: 108-88-3)

Bioaccumulation factor

BCF 90 Freshwater fish REACH dossier information **Partition coefficient** log Pow 2.73 REACH dossier information

ETHANOL (CAS: 64-17-5)

Bioaccumulation factor Not available. Partition coefficient log Pow -0.35@24°C REACH dossier information

12.4. Mobility in soil

Mobility:

The product is partly soluble in water. May spread in the aquatic environment.

Ecological information on ingredients.

TOLUENE (CAS: 108-88-3)

Adsorption/Desorption Coefficient

Soil Koc < 120 Estimated Value REACH dossier information Surface tension 27.73 mN/m @25°C Estimated Value REACH dossier information

ETHANOL (CAS: 64-17-5)

Adsorption/Desorption Coefficient

Not applicable. Henry's Law Constant Not available. Surface tension 24.5 mN/m @20°C REACH dossier information

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

Ecological information on ingredients.

TOLUENE (CAS: 108-88-3)

Not Classified as PBT/vPvB by current EU criteria.

ETHANOL (CAS: 64-17-5)

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

Not known.

Ecological information on ingredients.

TOLUENE (CAS: 108-88-3)

Not known.

SECTION 13: DISPOSAL CONSIDERATIONS

General information

When handling waste, consideration should be made to the safety precautions applying to handling of the product.

13.1. Waste treatment methods

Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point. Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

1993
1993
1993

14.2. UN proper shipping name

Proper Shipping Name

FLAMMABLE LIQUID, N.O.S.(TOLUENE, ETHANOL)

14.3. Transport hazard class(es)

ADR/RID/ADN Class	3
ADR/RID/ADN Class	Class 3: Flammable liquids.
ADR Label No.	3
IMDG Class	3
ICAO Class/Division	3
Transport Labels	
	A



14.4. Packing group

ADR/RID/ADN Packing group	П
IMDG Packing group	П
ICAO Packing group	П
14.5. Environmental hazards	

Environmentally Hazardous Substance/Marine Pollutant No.

14.6. Special precautions for user

EMS	F-E, S-E
Emergency Action Code	•3YE
Hazard No. (ADR)	33
Tunnel Restriction Code	(D/E)

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

No information required.

SECTION 15: REGULATORY INFORMATION

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

EU Legislation

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 with amendments. 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 (EC) 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, including amendments.

National Regulations

Workplace Exposure Limits 2005 (EH40)

Authorisations (Title VII Regulation 1907/2006)

No specific authorisations are noted for this product.

Restrictions (Title VIII Regulation 1907/2006)

No specific restrictions of use are noted for this product.

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Revision Comments	
This is first issue.	
Revision Date	05-2012
Revision	2/05-2012
Supersedes date	11-2010
Risk Phrases In Full	
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R65	Harmful: may cause lung damage if swallowed.
R11	Highly flammable
R38	Irritating to skin.
R63	Possible risk of harm to the unborn child.
R67	Vapours may cause drowsiness and dizziness.
Hazard Statements In Full	
H315	Causes skin irritation.
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs << Organs>> through prolonged or repeated exposure.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.

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