



SAFETY DATA SHEET TRIKLONE N

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

1.1. Product identifier

Product name	TRIKLONE N
Chemical name	Trichloroethylene
Product No.	8165
REACH Registration number	01-2119490731-36-xxxx
REACH Registration notes	This substance is listed on the current on the current ECHA Candidate List of Substances of Very High Concern (SVHC).
EC No.	201-167-4

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

Identified uses	Solvent for Industrial Use Chemical intermediate
Uses advised against	Consumer applications

1.3. Details of the supplier of the safety data sheet

Manufacturer	Samuel Banner & Co Ltd Hampton Court Manor Park Runcorn Cheshire WA7 1TU, UK +44 (0)1928 597 000 (General Enquiries) +44 (0)1928 597 001 (Fax) www.bannerchemicals.com
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1.4. Emergency telephone number

+44 (0) 207 405 5375 (National Emergency Centre)
+44 (0) 870 190 6777 (National Emergency Centre)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)	Physical and Chemical Hazards Not classified. Human health Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; Muta. 2 - H341; Carc. 1B - H350; STOT Single 3 - H336 Environment Aquatic Chronic 3 - H412
Classification (1999/45/EEC)	Carc. Cat. 2; R45. Muta Cat. 3; R68. Xi; R36/38. R52/53, R67.

2.2. Label elements

EC No.	201-167-4
Contains	Trichloroethylene
Label In Accordance With (EC) No. 1272/2008	



Signal Word Danger

TRIKLONE N

Hazard Statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements

P202	Do not handle until all safety precautions have been read and understood.
P273	Avoid release to the environment.
P281	Use personal protective equipment as required.
P260e	Do not breathe vapours.
P391	Collect spillage.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
	Dispose of contents and container to a registered waste disposal company.

Supplemental label information

RCH002	Restricted to professional users.
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2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Trichloroethylene	>99.0
CAS-No.: 79-01-6	EC No.: 201-167-4
	Registration Number: 01-2119490731-36-xxxx
Classification (EC 1272/2008)	Classification (67/548/EEC)
Skin Irrit. 2 - H315	Carc. Cat. 2;R45.
Eye Irrit. 2 - H319	Muta. Cat. 3;R68.
Skin Sens. 1 - H317	Xi;R36/38.
Carc. 1B - H350	R52/53,R67.
STOT Single 3 - H336	
Aquatic Chronic 3 - H412	

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

REACH Registration number	01-2119490731-36-xxxx
REACH Registration notes	This substance is listed on the current on the current ECHA Candidate List of Substances of Very High Concern (SVHC).
EC No.	201-167-4
Gross Formula	C2HCl3

Composition Comments

This product is stabilised through the addition of a stabiliser.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures**Inhalation**

Move the exposed person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Perform artificial respiration if breathing has stopped. Get medical attention.

Ingestion

Do not induce vomiting. Get medical attention immediately!

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.

Eye contact

Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring along these instructions.

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

TRIKLONE N

General information

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

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

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Fire creates: Very toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride (HCl). Phosgene (COCl₂). Chlorine.

Unusual Fire & Explosion Hazards

Heat may cause the containers to explode.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Keep up-wind to avoid fumes. Keep run-off water out of sewers and water sources. Dike for water control.

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

Use protective gloves, goggles and suitable protective clothing. Do not breathe vapour.

6.2. Environmental precautions

Do not discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Absorb in vermiculite, dry sand or earth and place into containers.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Use in closed system. Avoid inhalation of vapours/spray and contact with skin and eyes. Provide good ventilation. Do not eat, drink or smoke when using the product.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place. Protect from light, including direct sunrays. May attack some plastics, rubber and coatings.

Storage Class

Toxic 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
Trichloroethylene		10 ppm		

DNEL	Industry	Inhalation.	Short Term	164.1 mg/m ³
DNEL	Industry	Dermal	Long Term	7.8 mg/kg/day
DNEL	Industry	Inhalation.	Long Term	54.7 mg/m ³

TRIKLONE N

PNEC	Freshwater	0.115	mg/l
PNEC	Marinewater	0.0115	mg/l
PNEC	Sediment	Freshwater	2.04 mg/kg
PNEC	Sediment	Marinewater	0.204mg/kg
	Water (intermittent releases):	0.208 mg/l	

8.2. Exposure controls**Protective equipment****Process conditions**

Use engineering controls to reduce air contamination to permissible exposure level.

Engineering measures

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Provide adequate general and local exhaust ventilation.

Respiratory equipment

In case of inadequate ventilation and work of brief duration, use suitable respiratory equipment. SCBA, Self contained breathing apparatus.

Hand protection

Protective gloves must be used if there is a risk of direct contact or splash. Gloves of nitrile rubber, PVA or Viton are recommended. Manufactured/tested in accordance with EN 374.

Eye protection

Use safety goggles and face shield in case of splash risk. Manufactured/Tested in accordance with EN 166.

Other Protection

Use engineering controls to reduce air contamination to permissible exposure level.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap & water if skin becomes contaminated. When using do not eat, drink or smoke.

Environmental Exposure Controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Appearance	Clear liquid.
Colour	Colourless.
Odour	Ether Sweetish.
Solubility	Slightly soluble in water. Miscible with: Organic solvents.
Initial boiling point and boiling range	86
Melting point (°C)	-86
Relative density	1.465 20
Vapour density (air=1)	4.45
Vapour pressure	9.9 kPa 25
Evaporation rate	0.69
pH-Value, Conc. Solution	7.1
Viscosity	0.58 20
Solubility Value (G/100G H2O@20°C)	0.11
	Non flammable.
Auto Ignition Temperature (°C)	410
Flammability Limit - Lower(%)	Not applicable.
	Non flammable.
Partition Coefficient (N-Octanol/Water)	2.53
Explosive properties	Not explosive.
	Not considered oxidising.

TRIKLONE N

9.2. Other information

Volatility Description	Highly volatile.
Volatile By Vol. (%)	100

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. This product contains a stabiliser.

10.3. Possibility of hazardous reactions**Hazardous Polymerisation**

Will not polymerise.

10.4. Conditions to avoid

Avoid exposure to high temperatures or direct sunlight. Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials**Materials To Avoid**

Strong alkalis. Strong oxidising substances. Chemically active metals. Barium, Beryllium. Nitrogen Dioxide. Potassium. Sodium Hydroxide.

10.6. Hazardous decomposition products

Hydrogen chloride (HCl). Chlorine. Phosgene (COCl₂).

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

Toxic Dose 1 - LD 50	5620 mg/kg (oral rat)	
Toxic Conc. - LC 50	12500 ppm/4h (inh-rat)	
Acute Toxicity (Oral LD50)	5400 mg/kg	
Acute Toxicity (Dermal LD50)	2000 mg/kg Rabbit	
Acute Toxicity (Inhalation LC50)	64500	
	Units - mg/m ³	
	Erythema/eschar score	Severe erythema (beef redness) to eschar formation preventing grading of erythema (4).
	Oedema score	Slight oedema - edges of area well defined by definite raising (2).
	Irritating.	
Serious eye damage/irritation	Causes eye irritation.	
	Not classified as a sensitizer.	
	Sensitising.	
Germ cell mutagenicity (In vitro)		
Gene Mutation:	Not mutagenic.	
Germ cell mutagenicity (In vivo)		
Chromosome aberration:	Not mutagenic.	
Carcinogenicity	NOAEL 50 mg/kg Oral	
	Target organ for carcinogenicity	Kidneys Liver Respiratory system, lungs
	Not classified	
	Not classified.	
STOT - Repeated exposure	NOAEL 50 mg/kg Oral	
	Target Organs	Kidneys

Inhalation

Vapours may cause drowsiness and dizziness.

Skin contact

Irritating to skin.

Eye contact

Irritation of eyes and mucous membranes.

TRIKLONE N

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

LC 50, 96 Hrs, Fish mg/l	28.3 (Jordanella floridae)
Acute Toxicity - Fish	LC50 96 hours 66.8 mg/l Pimephales promelas (Fat-head Minnow)
	LC50 48 hours 60 mg/l Brachydanio rerio (Zebra Fish)
EC 50, 48 Hrs, Daphnia, mg/l	20.8
Acute Toxicity - Aquatic Invertebrates	EC50 96 hours 14 mg/l
	Americamysis bahia
Acute Toxicity - Aquatic Plants	EC50 96 hours 450 mg/l Scenedesmus subspicatus
	EC50 96 hours 175 mg/l Selenastrum capricornutum
Acute Toxicity - Microorganisms	EC50 3 hours 260 mg/l Activated sludge
Chronic Toxicity - Fish Early life Stage	NOEC 5.76 mg/l
Acute Toxicity - Terrestrial	
Not relevant	

12.2. Persistence and degradability**Degradability**

The product is not readily biodegradable.

Phototransformation	Air. Half-life: 13 days
	Half-Life (DT50): t1/2 (pH7): 1300000 yr @25 deg C

Biodegradation	Soil Half-life: 61.3 days
	Water and Sediment Half-life: 73.1 days
	No biodegradation observed under test conditions.

12.3. Bioaccumulative potential**Bioaccumulative potential**

The product does not contain any substances expected to be bioaccumulating.

Bioaccumulation factor	BCF 17 Lepomis macrochirus (Bluegill)
Partition Coefficient	Partition coefficient (n-octanol/water): log Kow 2.53

12.4. Mobility in soil**Mobility:**

The product has only slight mobility in soil.

Adsorption/Desorption Coefficient	Expected to have a low potential for adsorption. Koc 141 20
Henry's Law Constant	1030 Pa m ³ /mol 20

12.5. Results of PBT and vPvB assessment

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. Recover and reclaim or recycle, if practical.

Waste Class

Hazardous Waste

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN)	1710
UN No. (IMDG)	1710
UN No. (ICAO)	1710

14.2. UN proper shipping name

Proper Shipping Name	Trichloroethylene
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TRIKLONE N

14.3. Transport hazard class(es)

ADR/RID/ADN Class	6.1
ADR Label No.	6.1A
IMDG Class	6.1
ICAO Class/Division	6.1
Transport Labels	

**14.4. Packing group**

ADR/RID/ADN Packing group	III
IMDG Packing group	III
ICAO Packing group	III

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant
No.

14.6. Special precautions for user**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code****SECTION 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Uk Regulatory References**

The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.

Guidance Notes

Workplace Exposure Limits EH40.

EU Legislation

Regulation (EC) No 1272/2008 CLP. Regulation (EC) No 1907/2006 REACH.

15.2. Chemical Safety Assessment

A chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION**Information Sources**

Manufacturer's Material Safety Data Sheet Approved Supply List

Revision Comments

Additional substance information.

Issued By	Compliance Department
Revision Date	03/12/2010
Revision	1
Safety Data Sheet Status	Approved.
Date	09-Feb-12

Risk Phrases In Full

R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R36/38	Irritating to eyes and skin.
R45	May cause cancer.
R68	Possible risk of irreversible effects.
R67	Vapours may cause drowsiness and dizziness.

TRIKLONE N

Hazard Statements In Full

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H412	Harmful to aquatic life with long lasting effects.
H317	May cause an allergic skin reaction.
H350	May cause cancer.
H336	May cause drowsiness or dizziness.

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy themselves as to the suitability of such information for his own particular use.