Supersedes date: 12/22/2015

SAFETY DATA SHEET CH763 NONFLAMMABLE DEFLUXER

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification	
Product identifier	
Product name	CH763 NONFLAMMABLE DEFLUXER
Product number	758CH763
Recommended use of the che	emical and restrictions on use
Application	Cleaning agent.
Details of the supplier of the s	safety data sheet
Manufacturer	Techni-Tool, Inc. 1547 North Trooper Road Worcester, PA 19490-1117 610-941-2400 610-940-5485 www.techni-tool.com
Emergency telephone numbe	<u>r</u>
Emergency telephone	CHEMTREC (800) 424-9300
2. Hazard(s) identification	
Classification of the substanc	e or mixture
Physical hazards	Not Classified
Health hazards	Acute Tox. 4 - H332 Repr. 2 - H361 STOT SE 1 - H370 Asp. Tox. 1 - H304
Environmental hazards	Aquatic Chronic 3 - H412
Human health	Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Mild dermatitis, allergic skin rash.
Environmental	The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.
Physicochemical	Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. Not considered to be a significant hazard due to the small quantities used. Gas or vapor displaces oxygen available for breathing (asphyxiant).
Label elements	
Pictogram	
Signal word	Danger
Hazard statements	 H304 May be fatal if swallowed and enters airways. H332 Harmful if inhaled. H361 Suspected of damaging fertility or the unborn child. H370 Causes damage to organs . H412 Harmful to aquatic life with long lasting effects.

Precautionary statements	 P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking. P251 Pressurized container: Do not pierce or burn, even after use P261 Avoid breathing spray. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352 If on skin: Wash with plenty of water. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+P313 If skin irritation occurs: Get medical advice/ attention. P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting. P314 Get medical advice/ attention if you feel unwell. P301+P312 If swallowed: Call a poison center/ doctor if you feel unwell. P410+P403 Protect from sunlight. Store in a well-ventilated place. P412 Do not expose to temperatures exceeding 50°C/122°F. P501 Dispose of contents/ container in accordance with national regulations.
Supplemental label information	Safety data sheet available on request. For use in industrial installations only.
Contains	trans-DICHLOROETHYLENE, ETHANOL

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures

trans-DICHLOROETHYLENE

CAS number: 156-60-5

Classification

Flam. Liq. 2 - H225 Acute Tox. 4 - H302 Acute Tox. 4 - H332 Asp. Tox. 1 - H304 Aquatic Chronic 3 - H412

1,1,1,2,2,3,4,5,5,5-decafluoropentane

CAS number: 138495-42-8

Classification

Aquatic Chronic 3 - H412

HFC-134a Tetrafluoroethane

CAS number: 811-97-2

Classification

Press. Gas, Liquefied - H280

10-30%

30-60%

10-30%

ETHANOL	1-5%	
CAS number: 64-17-5		
Classification Flam. Liq. 2 - H225 Eye Irrit. 2A - H319 Repr. 2 - H361 STOT SE 1 - H370 STOT SE 3 - H335, H336		
The full text for all hazard state	ements is displayed in Section 16.	
Composition comments	The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of CFR 1900.1200 TSCA: The ingredients of this product are on the TSCA Inventory.	
Composition		
4. First-aid measures		
Description of first aid measur	es	
General information	Never give anything by mouth to an unconscious person. Do not induce vomiting. Place unconscious person on the side in the recovery position and ensure breathing can take place. If breathing stops, provide artificial respiration.	
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.	
Ingestion	Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Consult a physician for specific advice.	
Skin Contact	Remove contaminated clothing and rinse skin thoroughly with water.	
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Consult a physician for specific advice.	
Most important symptoms and	effects, both acute and delayed	
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.	
Inhalation	Vapors may cause headache, fatigue, dizziness and nausea. Difficulty in breathing. Upper respiratory irritation. Severe irritation of nose and throat.	
Ingestion	May cause stomach pain or vomiting. Drowsiness, dizziness, disorientation, vertigo.	
Skin contact	Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.	
Eye contact	Irritation of eyes and mucous membranes. Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.	
Indication of immediate medic	al attention and special treatment needed	
Notes for the doctor	No specific recommendations. If in doubt, get medical attention promptly.	
5. Fire-fighting measures		
Extinguishing media		
Suitable extinguishing media	The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.	
Special hazards arising from the substance or mixture		

Flammability Class	The product is not flammable.
Specific hazards	Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors. Aerosol containers can explode when heated, due to excessive pressure build-up.
Hazardous combustion products	Heating may generate the following products: Toxic and corrosive gases or vapors. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. Oxides of carbon. Oxides of nitrogen.
Advice for firefighters	
Protective actions during firefighting	Move containers from fire area if it can be done without risk. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
6. Accidental release measure	S
Personal precautions, protecti	ve equipment and emergency procedures
Personal precautions	Warn everybody of potential hazards and evacuate if necessary. Provide adequate ventilation. Avoid inhalation of vapors. Use approved respirator if air contamination is above an acceptable level.
Environmental precautions	
Environmental precautions	Contain spillage with sand, earth or other suitable non-combustible material. Avoid release to the environment.
Methods and material for cont	ainment and cleaning up
Methods for cleaning up	Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation.
Reference to other sections	See Section 11 for additional information on health hazards.
7. Handling and storage	
Precautions for safe handling	
Usage precautions	Provide adequate ventilation. Avoid inhalation of vapors/spray and contact with skin and eyes. Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors.
Conditions for safe storage, in	cluding any incompatibilities
Storage precautions	Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C.
Specific end uses(s)	
Specific end use(s)	The identified uses for this product are detailed in Section 1.2.
Reference to other sections.	Store away from incompatible materials (see Section 10).
8. Exposure Controls/persona	protection
Control parameters	

trans-DICHLOROETHYLENE

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 793 mg/m³

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Long-term exposure limit (8-hour TWA): SUP 200 ppm

HFC-134a Tetrafluoroethane

Long-term exposure limit (8-hour TWA): OES 4240 mg/m³ Short-term exposure limit (15-minute): OES

ETHANOL

Long-term exposure limit (8-hour TWA): OSHA 1000 ppm 1900 mg/m³ Short-term exposure limit (15-minute): ACGIH 1000 ppm 1880 mg/m³ A3

ACGIH = American Conference of Governmental Industrial Hygienists.

OSHA = Occupational Safety and Health Administration. A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans.

Additional Occupational Exposure Limits

Ingredient comments

ACGIH = US Standard. WEL = Workplace Exposure Limits

Exposure controls

Protective equipment



Appropriate engineering controls	No specific ventilation requirements. This product must not be handled in a confined space without adequate ventilation.
Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.
Other skin and body protection	Wear suitable protective clothing as protection against splashing or contamination. Wear apron or protective clothing in case of contact.
Hygiene measures	No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products. When using do not eat, drink or smoke.
Respiratory protection	Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. In confined or poorly-ventilated spaces, a supplied-air respirator must be worn. Wear self-contained breathing apparatus with full facepiece.

9. Physical and Chemical Properties

Information on basic physical and chemical properties		
Appearance	Clear liquid. Aerosol.	
Color	Colorless.	
Odor	Slight. Ether.	
Odor threshold	No information available.	
рН	No information available.	
Melting point	No information available.	

Initial boiling point and range	41°C/106°F @ 101.3 kPa
Flash point	The product is not flammable.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 14.4 %(V) Lower flammable/explosive limit: 5.0 %(V)
Other flammability	The product is not flammable. Aerosol ignition distance: none at 0.0 cm
Vapor pressure	37.9 kPa @ 25°C
Vapor density	3.4
Relative density	No information available.
Bulk density	No information available.
Solubility(ies)	.4 g/l water @ 25°C
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	No information available.
Explosive properties	No information available.
Oxidizing properties	Not known.
Comments	Aerosol.
Refractive index	No information available.
Particle size	No information available.
Molecular weight	No information available.
Volatility	100%
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	This product contains a maximum VOC content of 1080 g/l.
Flammability	The product is not flammable.
10. Stability and reactivity	
Reactivity	The following materials may react with the product: Strong alkalis.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	Will not polymerize.
Conditions to avoid	Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors.

Materials to avoid	Alkali metals. Alkaline earth metals. Powdered metal.
Hazardous decomposition products	Heating may generate the following products: Toxic and corrosive gases or vapors. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon dioxide (CO2). Carbon monoxide (CO).
11. Toxicological information	
Information on toxicological ef	fects
Acute toxicity - oral	
ATE oral (mg/kg)	2,245.45
Acute toxicity - inhalation	
ATE inhalation (vapours mg/l)	20.0
Inhalation	Vapors may irritate throat/respiratory system. A single exposure may cause the following adverse effects: Coughing. Difficulty in breathing.
Ingestion	May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.
Skin Contact	Product has a defatting effect on skin. May cause allergic contact eczema.
Eye contact	May cause temporary eye irritation.
Medical Symptoms	Gas or vapor in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Headache. Fatigue. Nausea, vomiting.

Toxicological information on ingredients.

trans-DICHLOROETHYLENE

Other health effects	There is no evidence that the product can cause cancer.
Acute toxicity - oral	
Acute toxicity oral (LD₅₀ mg/kg)	1,235.0
Species	Rat
ATE oral (mg/kg)	1,235.0
Acute toxicity - dermal	
Acute toxicity dermal (LD₅o mg/kg)	5,000.0
Species	Rabbit
ATE dermal (mg/kg)	5,000.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC₅ vapours mg/l)	24,100.0
Species	Rat
ATE inhalation (vapours mg/l)	11.0

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Acute toxicity - oral	
Acute toxicity oral (LD₅₀ mg/kg)	5,000.0
Species	Rat
ATE oral (mg/kg)	5,000.0
Acute toxicity - dermal	
Acute toxicity dermal (LD₅₀ mg/kg)	5,000.0
Species	Rat
ATE dermal (mg/kg)	5,000.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC₅₀ vapours mg/l)	114.0
Species	Rat
ATE inhalation (vapours mg/l)	114.0
Skin corrosion/irritation	
Animal data	Not irritating. Rabbit
Human skin model test	Data lacking.
Extreme pH	Not applicable. Not corrosive to skin.
Serious eye damage/irritation	on
Serious eye damage/irritation	Not irritating. Rabbit
Respiratory sensitization	
Respiratory sensitization	Data lacking.
Skin sensitization	
Skin sensitization	Not sensitizing Guinea pig: Not sensitizing.
Germ cell mutagenicity	
Genotoxicity - in vitro	This substance has no evidence of mutagenic properties.
Genotoxicity - in vivo	This substance has no evidence of mutagenic properties.
Carcinogenicity	
Carcinogenicity	Does not contain any substances known to be carcinogenic.
IARC carcinogenicity	Not listed.
NTP carcinogenicity	Not listed.
OSHA Carcinogenicity	Not listed.
Reproductive toxicity	

	Reproductive toxicity - fertility	No evidence of reproductive toxicity in animal studies.
	Skin Contact	Skin irritation should not occur when used as recommended. May cause defatting of the skin but is not an irritant.
	Eye contact	May cause eye irritation.
	Acute and chronic health hazards	There is no evidence that the product can cause cancer.
		HFC-134a Tetrafluoroethane
	Other health effects	There is no evidence that the product can cause cancer.
	Acute toxicity - inhalation	·
	Acute toxicity inhalation (LC ₅₀ gases ppmV)	567,000.0
	Species	Rat
	ATE inhalation (gases ppm)	567,000.0
		ETHANOL
	Carcinogenicity	
	IARC carcinogenicity	IARC Group 1 Carcinogenic to humans.
12. Ecologie	cal Information	
Ecotoxicity	Dangero	ous for the environment if discharged into watercourses.
Ecological i	nformation on ingredients.	
		trans-DICHLOROETHYLENE
	Ecotoxicity	Low acute toxicity to aquatic organisms.
		1,1,1,2,2,3,4,5,5,5-decafluoropentane
	Ecotoxicity	It is unlikely that the substance will dissolve in water in amounts big enough to have a toxic effect on fish and daphnies.
Toxicity		
Toxicity	Very to	tic to aquatic organisms.
Ecological i	nformation on ingredients.	
		trans-DICHLOROETHYLENE
	Acute toxicity - fish	LC₅₀, 96 hours: 1350 mg/l, Fish
	Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 220 mg/l, Daphnia magna
		1,1,1,2,2,3,4,5,5,5-decafluoropentane

Supersedes date: 12/22/2015

	Acute toxicity - fish	LC₅₀, 96 hours: 13.9 mg/l, Onchorhynchus mykiss (Rainbow trout)
	Acute toxicity - aquatic invertebrates	LC₅₀, 48 hours: 11.7 mg/l, Daphnia magna
	Acute toxicity - aquatic plants	EC₅₀, 72 hours: >120 mg/l, Algae
		HFC-134a Tetrafluoroethane
	Acute toxicity - fish	LC₅₀, 96 hours: 450 mg/l, Fish
	Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 980 mg/l, Daphnia magna
		ETHANOL
	Acute toxicity - fish	LC₅₀, 96 hours: >10,000 mg/l, Fish
	Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 7,800 mg/l, Daphnia magna
Persistence	and degradability	
Persistence	and degradability The proc	duct is not readily biodegradable.
Ecological i	nformation on ingredients.	
		trans-DICHLOROETHYLENE
	Persistence and degradability	No data available.
		1,1,1,2,2,3,4,5,5,5-decafluoropentane
	Persistence and degradability	The product is not expected to be biodegradable.
Bioaccumul	ative potential	
Bio-Accumulative Potential No data available on bioaccumulation.		
Partition co	efficient No inform	nation available.
Ecological i	nformation on ingredients.	
		trans-DICHLOROETHYLENE
	Bio-Accumulative Potential	Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.
		1,1,1,2,2,3,4,5,5,5-decafluoropentane
	Bio-Accumulative Potential	Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.
	Partition coefficient	Pow: 2.7
		HFC-134a Tetrafluoroethane
	Partition coefficient	Pow: 1.06

Mobility in soil		
Mobility	The product contains volatile substances which may spread in the atmosphere.	
Ecological information on ingredients.		
trans-DICHLOROETHYLENE		
Mobility	The product has poor water-solubility.	
Results of PBT and vPvB assessment		
Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.	
Other adverse effects		
Other adverse effects	The product contains a substance or substances that will contribute to global warming (greenhouse effect). The product contains a substance which has a photochemical ozone creation potential.	
13. Disposal considerations		
Waste treatment methods		
General information	Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.	
Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.	
14. Transport information		
UN Number		
UN No. (TDG)	UN1950	
UN No. (IMDG)	UN 1950	
UN No. (ICAO)	UN 1950	
UN No. (DOT)	UN1950	
UN proper shipping name		
Proper shipping name (TDG)	UN1950 AEROSOLS, NON-FLAMMABLE, 2.2, LIMITED QUANTITY	
Proper shipping name (IMDG)	UN1950 AEROSOLS, NON-FLAMMABLE, 2.2, LIMITED QUANTITY	
Proper shipping name (ICAO)	UN1950 AEROSOLS, NON-FLAMMABLE, 2.2, LIMITED QUANTITY	
Proper shipping name (DOT)	UN1950 AEROSOLS, NON-FLAMMABLE, 2.2, LIMITED QUANTITY	
Transport hazard class(es)		
TDG class	2.2	
TDG label(s)	3	
IMDG Class	2.2	
ICAO class/division	2.2	
ICAO subsidiary risk	N/A	

Transport labels



Packing group	
TDG Packing Group	N/A
IMDG packing group	N/A
ICAO packing group	N/A
DOT packing group	N/A
Environmental bazarda	

Environmental hazards

Special precautions for user

Not applicable.

Transport in bulk according to Not applicable. No information required. Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

International Regulations

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities Not listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

trans-DICHLOROETHYLENE Final CERCLA RQ: 1000(454) pounds (Kilograms)

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

Not listed.

SARA 313 Emission Reporting Not listed.

CAA Accidental Release Prevention Not listed.

SARA (311/312) Hazard Categories

Acute Pressure

OSHA Highly Hazardous Chemicals Not listed.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins Not listed.

California Air Toxics "Hot Spots" (A-I) Not listed.

http://www.techni-tool.com

California Air Toxics "Hot Spots" (A-II) Not listed.

California Directors List of Hazardous Substances

trans-DICHLOROETHYLENE Present.

Massachusetts "Right To Know" List

ETHANOL

Present.

trans-DICHLOROETHYLENE Present.

Rhode Island "Right To Know" List

ETHANOL Present.

Minnesota "Right To Know" List

ETHANOL Present.

HFC-134a Tetrafluoroethane Present.

New Jersey "Right To Know" List

ETHANOL Present.

Pennsylvania "Right To Know" List

ETHANOL Present.

trans-DICHLOROETHYLENE Present.

Inventories

Canada - DSL/NDSL

HFC-134a Tetrafluoroethane DSL trans-DICHLOROETHYLENE DSL

US - TSCA

All the ingredients are listed. 1,1,1,2,2,3,4,5,5,5-DECAFLUOROPENTANE (CAS# 138495-42-8) is controlled by TSCA Section 5, Significant New Use Rule (SNUR; 40 CFR 721.5645) The approved uses are: precision and general cleaning, carrier fluid, displacement drying, printed circuit board cleaning, particulate removal and film cleaning, process medium, heat transfer fluid (dielectric and non-dielectric), and test fluid. Processors and users of this substance must also comply with the applicable general SNUR requirements set forth in 40 CFR 721 subpart A, including export notification requirements if applicable (40 CFR 721.20), and the applicable record keeping requirements set forth at 40 CFR 721.125.

16. Other information	
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	8/5/2016
Revision	17
Supersedes date	12/22/2015
SDS No.	AEROSOL - CH763
SDS status	Approved.
Hazard statements in full	 H225 Highly flammable liquid and vapor. H280 Contains gas under pressure; may explode if heated. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H361 Suspected of damaging fertility or the unborn child. H370 Causes damage to organs (Central nervous system, Eyes). H370 Causes damage to organs . H412 Harmful to aquatic life with long lasting effects.
NFPA - health hazard	Irritation, minor residual injury. (1)
NFPA - flammability hazard	Burns only if pre-heated. (1)
NFPA - instability hazard	Unstable if heated. (1)
NFPA - special hazard	N/A
ACA HMIS Health rating.	Slight Hazard. (1)
ACA HMIS Flammability rating.	Burns only if pre-heated. (1)
ACA HMIS Physical hazard rating.	Unstable if heated. (1)
ACA HMIS Personal protection rating.	A

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 himself as to the suitability of such information for his own particular use.