

Ver 5.0	sion	Revision Date: 10/20/2015	SE 32	OS Number: 0534-00001	Date of last issue: 08/20/2014 Date of first issue: 12/23/2009					
SEC	SECTION 1. PRODUCT AND COMPANY IDENTIFICATION									
	Product	name	:	HHS 2000 500ml						
	Product	code	:	893.106						
	Manufacturer or supplier's			iils						
	Compa	ny name of supplier	:	Würth Canada Lin	nited					
	Address	5	:	345 Hanlon Creek GUELPH, ON N10	x Blvd C 0A1					
	Telepho	one	:	+1 (905) 564 6225	5					
	Telefax		:	+1 (905) 564 367	I					
	Emerge	ency telephone	:	+1 (613) 996 6666	3					
	E-mail a respons	address of person sible for the SDS	:	prodsafe@wuerth	.com					
	Recommended use of the c			nical and restriction	ons on use					
	Recom	mended use	:	Polishing agent ar	nd lubricant					
	Prepare	ed by	:	prodsafe@wuerth	.com					

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER	DANGER							
Appearance Aerosol containing a liquefied gas								
Color	brown							
Odor	solvent							
Hazard Summary	Extremely flammable aerosol. Irritant Possible reproductive hazard Possible birth defect hazard Specific Target Organ Toxicity Potential for suffocation							
WHMIS Regulatory status	: This product, material or substance is a WHMIS controlled product per Sections 33 - 66, Part IV of the CPR.							
Potential Health Effects Target Organs	: Central nervous system Reproductive organs							



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	Inhalation		: Gas reduces oxygen available for breathing. May cause drowsiness or dizziness.							
	Skin		: Ca	: Causes skin irritation.						
	Eyes		: No	: No significant irritation expected from a single exposure.						
	Ingestic	on	: Ingestion may cause gastrointestinal irritation, nausea, vo- miting and diarrhea.							
	Chronic Exposure		 May cause adverse reproductive effects. May cause birth defects. Prolonged or repeated exposure may cause target organ effects. 							
	Aggravated Medical Condi- tion		: None known.							
	Carcin	ogenicity:								
	IARC		No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.							
	ACGIH		No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.							

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Hydrocarbons, C6, isoalkanes, <5% n-hexane	64742-49-0	>= 30 - < 50
Isobutane	75-28-5	>= 20 - < 30
n-Pentane	109-66-0	>= 5 - < 10
Propane	74-98-6	>= 1 - < 5
Butane	106-97-8	>= 1 - < 5
Benzene, mono-C10-13-alkyl derivs., distn. resi-	84961-70-6	>= 1 - < 5
dues		
n-Hexane	110-54-3	>= 1 - < 5

SECTION 4. FIRST AID MEASURES

General advice

: In the case of accident or if you feel unwell, seek medical advice immediately.

When symptoms persist or in all cases of doubt seek medical advice.



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	lf inhale	ed	:	If inhaled, remove Get medical attent	to fresh air. ion.
	In case	of skin contact	:	In case of contact, for at least 15 min and shoes. Get medical attent Wash clothing bef Thoroughly clean	immediately flush skin with plenty of water utes while removing contaminated clothing ion. ore reuse. shoes before reuse.
	In case of eye contact		:	Flush eyes with wa Get medical attent	ater as a precaution. ion if irritation develops and persists.
	If swalld	owed	:	If swallowed, DO I Get medical attent Rinse mouth thoro	NOT induce vomiting. ion. ughly with water.
	Protecti	on of first-aiders	:	First Aid responde and use the recom when the potential	rs should pay attention to self-protection, mended personal protective equipment for exposure exists.
	Notes to	o physician	:	Treat symptomatic	cally and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Flash back possible over considerable distance. Vapors may form explosive mixtures with air. Exposure to combustion products may be a hazard to health. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
Hazardous combustion prod- ucts	:	Carbon oxides
Specific extinguishing meth- ods	:	Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES



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	Person tive equ gency p	al precautions, protec- uipment and emer- procedures	:	Remove all sourc Use personal prot Follow safe handl ment recommend	es of ignition. tective equipment. ing advice and personal protective equip- ations.
	Enviror	nmental precautions	:	Discharge into the Prevent further lea Prevent spreading barriers). Retain and dispose Local authorities s cannot be contain	e environment must be avoided. akage or spillage if safe to do so. g over a wide area (e.g. by containment or oil se of contaminated wash water. should be advised if significant spillages led.
	Methoc contain	ls and materials for ment and cleaning up	:	Non-sparking tool Soak up with iner Suppress (knock jet. For large spills, pr ment to keep mat pumped, store red Clean up remaining bent. Local or national up posal of this mate employed in the c mine which regula Sections 13 and 1 certain local or national up	s should be used. t absorbent material. down) gases/vapors/mists with a water spray rovide diking or other appropriate contain- erial from spreading. If diked material can be covered material in appropriate container. ng materials from spill with suitable absor- regulations may apply to releases and dis- rial, as well as those materials and items leanup of releases. You will need to deter- ations are applicable. 5 of this SDS provide information regarding tional requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation.
Advice on protection against fire and explosion	:	Vapors may form explosive mixtures with air.
Advice on safe handling	:	Do not get on skin or clothing. Do not breathe vapors or spray mist. Do not swallow. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.
Conditions for safe storage	:	Keep in properly labeled containers. Store locked up.



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		Keep in a cool, we Store in accordan Do not pierce or b Keep cool. Protec	ell-ventilated place. ce with the particular national regulations. ourn, even after use. t from sunlight.
Materia	ls to avoid	: Keep away from for Do not store toget To be observed: T	ood, drink and animal feedingstuffs. her with oxidizing and self-igniting products. TRGS 510
		Do not store with the Self-reactive substories Organic peroxides Oxidizing agents Flammable solids Pyrophoric liquids Pyrophoric solids Self-heating substories Substances and no flammable gases Explosives	the following product types: tances and mixtures tances and mixtures nixtures which in contact with water emit

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Hydrocarbons, C6, isoalkanes, <5% n-hexane	64742-49-0	TWA (Mist)	5 mg/m3	CA AB OEL
		STEL (Mist)	10 mg/m3	CA AB OEL
		TWAEV (Mist)	5 mg/m3	CA QC OEL
		STEV (Mist)	10 mg/m3	CA QC OEL
Isobutane	75-28-5	TWA	1,000 ppm	CA BC OEL
		TWA	1,000 ppm	CA AB OEL
		TWA	800 ppm	CA ON OEL
		STEL	1,000 ppm	ACGIH
Residual oils (petroleum), hydrotreated	64742-57-0	TWA (Mist)	1 mg/m3	CA BC OEL
		TWA (Mist)	5 mg/m3	CA AB OEL
		STEL (Mist)	10 mg/m3	CA AB OEL
		TWAEV (Mist)	5 mg/m3	CA QC OEL
		STEV (Mist)	10 mg/m3	CA QC OEL
		TWA (Inhal- able fraction)	5 mg/m3	ACGIH
n-Pentane	109-66-0	TWAEV	120 ppm 350 mg/m3	CA QC OEL
		TWA	600 ppm 1,770 mg/m3	CA AB OEL
		TWA	600 ppm	CA BC OEL
		TWA	1,000 ppm	ACGIH

Ingredients with workplace control parameters



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Miner	al Oil	No	t Assigned	TW	A (Mist)	5 mg/m3	I	CA	AB OEL
			J	STE	EL (Mist)	10 ma/m3	3	CA	AB OEL
				TW (Mis	AEV st)	5 mg/m3	-	CA	QC OEL
				STE	EV (Mist)	10 mg/m3	3	CA	QC OEL
				TW	A (Mist)	1 mg/m3		CA	BC OEL
				TW able	A (Inhal- e fraction)	5 mg/m3		AC	GIH
Propa	ane	74-	·98-6	TW	A	1,000 ppr	n	CA	AB OEL
				TW	A	1,000 ppr	n	CA	BC OEL
				TW	AEV	1,000 ppr 1,800 mg	n /m3	CA	QC OEL
					TWA 1,000 p		n	CA ON OE	
Butan	e	106	6-97-8	TW	A	1,000 ppr	n	CA	AB OEL
				TW	A	600 ppm		CA	BC OEL
				STE	EL	750 ppm		CA	BC OEL
				TW	AEV	800 ppm 1,900 mg	/m3	CA	QC OEL
				TW	A	800 ppm		CA	ON OEL
				STE	EL	1,000 ppr	n	AC	GIH
n-Hex	ane	11()-54-3	TW	A	50 ppm 176 mg/m	า3	CA	AB OEL
				TW	A	20 ppm		CA	BC OEL
				TW	AEV	50 ppm 176 mg/m	13	CA	QC OEL
				TW	A	50 ppm		AC	GIH
Biolo	gical occupationa	l exposure	limits						
Ingree	dients	CAS-No.	Control	E	Biological	Sam-	Permissik	ole	Basis

Ingredients	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentra- tion	Basis
n-Hexane	110-54-3	2,5- Hexanedio- ne	Urine	End of shift at end of work- week	0.4 mg/l	ACGIH BEI
Engineering measures	: Min Use ven Use	Minimize workplace exposure concentrations. Use only in an area equipped with explosion proof exhaust ventilation. Use with local exhaust ventilation.				
Personal protective equ	ipment					
Respiratory protection	: Use ven that	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.				
Filter type	: Seli	f-contained bre	eathing appa	iratus		
Hand protection Material Break through time Glove thickness	: Nitr : 480 : 0.4	ile rubber min 5 mm				



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Remarks		: Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.			
Eye protection		: Wear the foll Safety glasse	owing personal protective equipment: es		
Skin and body protection		: Select appro resistance da potential. Wear the foll Flame retard Skin contact clothing (glov	priate protective clothing based on chemical ata and an assessment of the local exposure owing personal protective equipment: ant antistatic protective clothing. must be avoided by using impervious protective ves, aprons, boots, etc).		
Hygiene measures		: Ensure that e located close When using Wash contan	eye flushing systems and safety showers are to the working place. do not eat, drink or smoke. ninated clothing before re-use.		

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Aerosol containing a liquefied gas
Propellant	: Isobutane, Propane, Butane
Color	: brown
Odor	: solvent
Odor Threshold	: No data available
рН	: No data available
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: Not applicable
Flash point	: Not applicable
Evaporation rate	: Not applicable
Flammability (solid, gas)	: Extremely flammable aerosol.
Upper explosion limit	: 11.0 %(V)
Lower explosion limit	: 1.0 %(V)



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	Vapor pressure		:	Not applicable	
	Relative	e vapor density	:	Not applicable	
	Density		:	0.742 g/cm3 (20	°C)
	Solubili Wate	ty(ies) er solubility	:	insoluble	
	Partition coefficient: n- octanol/water		:	Not applicable	
	Autoignition temperature		:	200 °C	
	Decomposition temperature		:	No data available)
	Viscosi Visco	ty osity, dynamic	:	Not applicable	
	Explosi	ve properties	:	Not explosive	
	Oxidizing properties		:	The substance of	r mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reac- tions	:	Extremely flammable aerosol. Vapors may form explosive mixture with air. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure. Can react with strong oxidizing agents.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION



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		Exposure Test atm Remarks	e time: 4 h osphere: vapor : Based on data from similar materials
Ac	ute dermal toxicity	: LD50 (R Remarks	abbit): > 3,350 mg/kg : Based on data from similar materials
Iso Act	Isobutane: Acute inhalation toxicity		ouse): 260200 ppm e time: 4 h osphere: gas
n-F Act	Pentane: ute oral toxicity	: LD50 (R Method: Assessm icity	at): > 2,000 mg/kg OECD Test Guideline 401 ent: The substance or mixture has no acute oral tox-
Acı	ute inhalation toxicity	: LC50 (R Exposure Test atm Assessm tion toxic	at): > 20 mg/l e time: 4 h osphere: vapor ent: The substance or mixture has no acute inhala- ity
Pro Act	opane: ute inhalation toxicity	: LC50 (R Exposure Test atm	at): 241.8 mg/l e time: 4 h osphere: vapor
Bu Act	tane: ute inhalation toxicity	: LC50 (R Exposure Test atm	at): 658 mg/l e time: 4 h osphere: vapor
Be Act	nzene, mono-C10-13-alky ute oral toxicity	I derivs., dis : LD50 (R Method: Assessm icity	t n. residues: at): > 2,000 mg/kg OECD Test Guideline 401 ent: The substance or mixture has no acute oral tox-
Acı	ute dermal toxicity	: LD50 (R Assessm toxicity Remarks	at, male): > 3,600 mg/kg ent: The substance or mixture has no acute dermal : Based on data from similar materials
n-H Act	lexane: ute oral toxicity	: LD50 (R Method:	at): > 5,000 mg/kg OECD Test Guideline 401
Act	ute inhalation toxicity	: LC50 (R Exposure Test atm Method: Assessm tion toxic	at): > 31.86 mg/l e time: 4 h osphere: vapor OECD Test Guideline 403 ent: The substance or mixture has no acute inhala- ity



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	Acute	dermal toxicity	: LD50 (Rabbit):	> 2,000 mg/kg		
	Skin c	orrosion/irritation				
	Cause	s skin irritation.				
	Ingred	lients:	-			
	Hydrocarbons, C6, isoalkanes, <5% n-hexane: Species: Rabbit Method: OECD Test Guideline 404 Result: Skin irritation					
	n-Pent Specie Methoo Result:	t ane: es: Rabbit d: OECD Test Guidel e No skin irritation	ine 404			
	Benzene, mono-C10-13-alkyl derivs., distn. residues: Species: Rabbit Method: OECD Test Guideline 404 Result: Mild skin irritation					
	n-Hexa Specie Result:	ane: s: Rabbit : Skin irritation				
	Seriou	ıs eye damage/eye i	rritation			
	Not classified based on available information.					
	Ingred Hydro Specie Result:	l ients: carbons, C6, isoalka s: Rabbit : No eye irritation	anes, <5% n-hexane:			
	Remar	ks: Based on data fro	om similar materials			
	n-Pent	tane:				
	Result:	No eye irritation				
	Metho	d: OECD Test Guidel	ine 405			
	Benze Specie	ne, mono-C10-13-al es: Rabbit	kyl derivs., distn. res	sidues:		
	Result: Method	: No eye irritation d: OECD Test Guidel	ine 405			
	n-Hexa Specie Result:	ane: s: Rabbit : No eye irritation				
	Respir Skin se	atory or skin sensit	ization sified based on availab	ble information.		
	Respira	atory sensitization: N	ot classified based on	available information.		

Ingredients:



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Hydro Test T Routes Specie Result Remai	Hydrocarbons, C6, isoalkanes, <5% n-hexane: Test Type: Local lymph node assay (LLNA) Routes of exposure: Skin contact Species: Mouse Result: negative Remarks: Based on data from similar materials				
n-Pen Routes Specie Metho Result	n-Pentane: Routes of exposure: Skin contact Species: Guinea pig Method: OECD Test Guideline 406 Result: negative				
Benze Test T Routes Specie Metho Result	Benzene, mono-C10-13-alkyl derivs., distn. residues: Test Type: Maximization Test Routes of exposure: Skin contact Species: Guinea pig Method: OECD Test Guideline 406 Result: negative				
n-Hex Test T Routes Specie Result	n-Hexane: Test Type: Local lymph node assay (LLNA) Routes of exposure: Skin contact Species: Mouse Result: negative				
Germ Not cla	cell mutagenicity assified based on availa	able i	nformation.		
Ingred	Ingredients:				
Hydro Genote	carbons, C6, isoalkar oxicity in vitro	nes, « :	< 5% n-hexane: Test Type: Bacter Result: negative Remarks: Based o	ial reverse mutation assay (AMES) on data from similar materials	
		:	Test Type: Chrom Result: negative Remarks: Based of	osome aberration test in vitro	
		:	Test Type: In vitro Result: negative Remarks: Based o	o mammalian cell gene mutation test on data from similar materials	
Genote	oxicity in vivo	:	Test Type: Mutag cytogenetic test, c Species: Rat Application Route Result: negative	enicity (in vivo mammalian bone-marrow hromosomal analysis) : inhalation (vapor)	
Isobut Genote	a ne: oxicity in vitro	:	Test Type: Chrom Method: OECD To Result: negative Remarks: Based o	osome aberration test in vitro est Guideline 473 on data from similar materials	



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Geno	otoxicity in vivo	: Test Type: Mai cytogenetic as Species: Rat Application Ro Method: OECE Result: negativ Remarks: Base	mmalian erythrocyte micronucleus test (in vivo say) ute: inhalation (gas) D Test Guideline 474 re ed on data from similar materials
n-Pe	ntane:		
Geno	otoxicity in vitro	: Test Type: Chr Result: negativ	romosome aberration test in vitro re
Geno	otoxicity in vivo	: Test Type: Mai cytogenetic as: Species: Rat Application Ro Result: negativ	mmalian erythrocyte micronucleus test (in vivo say) ute: inhalation (vapor) re
Prop	ane:		
Gend	otoxicity in vitro	: Test Type: Bac Result: negativ	cterial reverse mutation assay (AMES) e
		: Test Type: Chr Method: OECE Result: negativ	romosome aberration test in vitro D Test Guideline 473 re
Geno	otoxicity in vivo	: Test Type: Mai cytogenetic as: Species: Rat Application Ro Method: OECE Result: negativ	mmalian erythrocyte micronucleus test (in vivo say) ute: inhalation (gas)) Test Guideline 474 /e
Buta	ino:		
Geno	otoxicity in vitro	: Test Type: Bac Result: negativ	cterial reverse mutation assay (AMES) e
Geno	otoxicity in vivo	: Test Type: Mai cytogenetic as: Species: Rat Application Ro Method: OECD Result: negativ Remarks: Base	mmalian erythrocyte micronucleus test (in vivo say) 0 Test Guideline 474 re ed on data from similar materials
Benz	zene, mono-C10-13-alk	vl derivs distn. res	sidues:
Geno	otoxicity in vitro	: Test Type: Am Result: negativ	es test e
		: Test Type: Chr Method: OECE Result: negativ Remarks: Base	romosomal aberration) Test Guideline 473 re ed on data from similar materials
		: Test Type: In v	itro mammalian cell gene mutation test



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			Method: OEC Result: negati Remarks: Bas	D Test Guideline 476 ve sed on data from similar materials
n G	n-Hexane: Genotoxicity in vitro :		: Test Type: Ba Result: negati	cterial reverse mutation assay (AMES) ve
			: Test Type: In Result: positiv	vitro mammalian cell gene mutation test re
G	Genotox	icity in vivo	: Test Type: Ro Species: Mou Application Ro Result: negati	odent dominant lethal test (germ cell) (in vivo) se oute: inhalation (vapor) ve
G A	Germ ce Assessn	II mutagenicity - nent	: Weight of evic cell mutagen.	dence does not support classification as a germ
C	Carcino	genicity sified based on availa	able information	
1				
H S A E R R	Hydroca Species: Applicati Exposur Result: r Remarks	arbons, C6, isoalkan Rat on Route: inhalation e time: 2 yr negative s: Based on data from	n es, <5% n-hexane (vapor) n similar materials	:
S A E R R	Species: Mouse Application Route: inhalation (vapor) Exposure time: 2 yr Result: negative Remarks: Based on data from similar materials			
n S A E N R	h-Hexar Species: Applicati Exposur Aethod: Result: r	ne: Rat on Route: inhalation e time: 2 Years OECD Test Guideline negative	(vapor) e 451	
R	Reprod	uctive toxicity		
N	/lay cau /lay cau	se adverse reproduct	tive effects.	
<u>Ir</u>	ngredie	ents:		
HE	lydroca Effects o	arbons, C6, isoalkan on fertility	es, <5% n-hexane : Test Type: Tw Species: Rat Application Ro Result: negati Remarks: Bas	e: vo-generation reproduction toxicity study oute: inhalation (vapor) ve sed on data from similar materials



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Effects on fetal development	: Test Type: Ei Species: Rat Application R Result: negat Remarks: Ba	mbryo-fetal development oute: inhalation (vapor) ive sed on data from similar materials
Isobutane: Effects on fertility	: Test Type: Co reproduction/ Species: Rat Application R Method: OEC Result: negat	ombined repeated dose toxicity study with the developmental toxicity screening test oute: Inhalation D Test Guideline 422 ive
Effects on fetal development	: Test Type: Correproduction/ Species: Rat Application R Method: OEC Result: negat	ombined repeated dose toxicity study with the developmental toxicity screening test oute: inhalation (gas) D Test Guideline 422 ive
n-Pentane: Effects on fertility	: Test Type: Ty Species: Rat Application R Method: OEC Result: negat Remarks: Ba	wo-generation reproduction toxicity study oute: inhalation (vapor) D Test Guideline 416 ive sed on data from similar materials
Propane: Effects on fertility	: Test Type: Co reproduction/ Species: Rat Application R Method: OEC Result: negat	ombined repeated dose toxicity study with the developmental toxicity screening test oute: inhalation (gas) D Test Guideline 422 ive
Effects on fetal development	: Test Type: Co reproduction/ Species: Rat Application R Method: OEC Result: negat	ombined repeated dose toxicity study with the developmental toxicity screening test oute: inhalation (gas) D Test Guideline 422 ive
Butane: Effects on fertility	: Test Type: Co reproduction/ Species: Rat Application R Method: OEC Result: negat	ombined repeated dose toxicity study with the developmental toxicity screening test oute: inhalation (gas) D Test Guideline 422 ive
Effects on fetal development	: Test Type: Correproduction/	ombined repeated dose toxicity study with the developmental toxicity screening test



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		Application Method: OE Result: neg	Route: inhalation (gas) CD Test Guideline 422 ative
E	Benzene, mono-C10- Effects on fertility	13-alkyl derivs., distn. : Test Type: Species: Ra Application Result: neg Remarks: B	residues: Fwo-generation reproduction toxicity study t Route: Ingestion ative ased on data from similar materials
E	Effects on fetal develo	pment : Test Type: Species: Ra Application Result: neg Remarks: B	Embryo-fetal development t Route: Ingestion ative ased on data from similar materials
r F S	h-Hexane: Reproductive toxicity - sessment	As- : Some evide fertility, and	nce of adverse effects on sexual function and or on development, based on animal experiments.
	STOT-single exposu	re	
S	Short-term exposure r	nay cause target organ e	offects
<u> </u> /	ngredients: Hydrocarbons, C6, is Assessment: May cau	soalkanes, <5% n-hexa se drowsiness or dizzine	ne: ISS.
1	n-Pentane: Assessment: May cau	se drowsiness or dizzine	SS.
1 /	n-Hexane: Assessment: May cau	se drowsiness or dizzine	ISS.
9	STOT-repeated expo	sure	
F	Prolonged or repeated	l exposure may cause ta	rget organ effects.
<u>I</u>	ngredients:		
 - /	h-Hexane: Farget Organs: Centra Assessment: May cau	al nervous system se damage to organs th	ough prolonged or repeated exposure.
F	Repeated dose toxic	ity	
<u> </u> 	ngredients: Hydrocarbons, C6, is Species: Rat, male NOAEL: 10.504 mg/l Application Route: inh Exposure time: 90 Day Remarks: Based on day	soalkanes, <5% n-hexa alation (vapor) ys ata from similar materials	ne:
I	sobutane:		



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	Species NOAEL Applica Exposu Method	s: Rat : 9000 ppm tion Route: inhalation re time: 6 Weeks : OECD Test Guidelin	(gas) e 422	
	n-Penta Species NOAEL Applica Exposu Method	ane: s: Rat : > 20.5 mg/l tion Route: inhalation re time: 13 Weeks : OECD Test Guidelin	(vapor) e 413	
	Propan Species NOAEL Applica Exposu Method	e: s: Rat : 9000 ppm tion Route: inhalation re time: 6 Weeks : OECD Test Guidelin	(gas) e 422	
	Butane Species NOAEL Applica Exposu Method	: s: Rat : 9000 ppm tion Route: inhalation re time: 6 Weeks : OECD Test Guidelin	(gas) e 422	
	Benzer Species NOAEL LOAEL Applica Exposu Remark	ne, mono-C10-13-alky s: Rat : 45 mg/kg : 360 mg/kg tion Route: Ingestion re time: 90 Days ss: Based on data from	/l derivs., distn. resid n similar materials	ues:
	n-Hexa Species LOAEL Applica Exposu	ne: s: Rat : 10.6 mg/l tion Route: inhalation re time: 16 Weeks	(vapor)	
	Aspirat Not clas Ingredi	t ion toxicity ssified based on availa <u>ents:</u>	able information.	
	Hydroc May be	arbons, C6, isoalkan fatal if swallowed and	les, <5% n-hexane: I enters airways.	
	n-Penta The sub garded	ane: ostance or mixture is k as if it causes a huma	nown to cause human In aspiration toxicity ha	aspiration toxicity hazards or has to be re- zard.
	Benzer	ne, mono-C10-13-alky	/I derivs., distn. resid	ues:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.



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n-He The gard	exane: substance or mixture is k led as if it causes a huma	nown to cause huma n aspiration toxicity h	n aspiration toxicity hazards or has to be re- azard.
Exp	erience with human exp	osure	
Ingr n-He Inha	edients: exane: lation	: Target Organs: (Central nervous system
SECTION	N 12. ECOLOGICAL INFO	ORMATION	
Eco	toxicity		
Ingr	edients:		
Hyd Toxi	rocarbons, C6, isoalkan city to fish	es, <5% n-hexane: LL50 (Oncorhyn Exposure time: 9 Test substance: Method: OECD Remarks: Based	chus mykiss (rainbow trout)): > 10 - 100 mg/l 96 h Water Accommodated Fraction Test Guideline 203 I on data from similar materials
Toxi aqua	city to daphnia and other atic invertebrates	: EL50 (Daphnia r Exposure time: 4 Test substance: Method: OECD Remarks: Based	nagna (Water flea)): > 1 - 10 mg/l 48 h Water Accommodated Fraction Test Guideline 202 I on data from similar materials
Тохі	city to algae	: EL50 (Selenastr mg/l Exposure time: 7 Test substance:	um capricornutum (green algae)): > 10 - 100 72 h Water Accommodated Fraction

		Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
		NOELR (Selenastrum capricornutum (green algae)): 0.1 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chron- ic toxicity)	:	NOELR (Daphnia magna (Water flea)): > 0.1 - 1 mg/l Exposure time: 21 d Method: OECD Test Guideline 211 Remarks: Based on data from similar materials
n-Pentane: Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 4.26 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2.7 mg/l Exposure time: 48 h



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	Toxicit	y to algae	:	ErC50 (Scenedes Exposure time: 7 Method: OECD T	smus quadricauda (Green algae)): 10.7 mg/l 2 h est Guideline 201
	Ecotox Chroni	icology Assessment c aquatic toxicity	:	Toxic to aquatic li	fe with long lasting effects.
	Benze Toxicit	ne, mono-C10-13-alky y to fish	/I de :	erivs., distn. resid LL50 (Pimephale Exposure time: 90 Test substance: V Remarks: Based	ues: s promelas (fathead minnow)): > 100 mg/l 5 h Vater Accommodated Fraction on data from similar materials
	Toxicit aquatio	y to daphnia and other c invertebrates	:	EC50 (Daphnia m Exposure time: 44 Method: OECD T Remarks: No toxi	nagna (Water flea)): > 1.4 mg/l 3 h est Guideline 202 city at the limit of solubility.
	Toxicit	y to algae	:	ErC50 (Scenedes mg/l Exposure time: 72 Method: OECD T Remarks: No toxi	smus quadricauda (Green algae)): > 2.08 2 h est Guideline 201 city at the limit of solubility.
				NOEC (Scenedes mg/l Exposure time: 72 Method: OECD T Remarks: No toxi	smus quadricauda (Green algae)): >= 2.08 2 h est Guideline 201 city at the limit of solubility.
	Toxicit aquatic ic toxic	y to daphnia and other c invertebrates (Chron- ity)	:	NOELR (Daphnia Exposure time: 2 Remarks: No toxi Based on data fro	magna (Water flea)): > 1 mg/l 1 d city at the limit of solubility. om similar materials
	n-Hexa Toxicit	ane: y to fish	:	LC50 (Pimephale Exposure time: 9	s promelas (fathead minnow)): 2.5 mg/l 5 h
	Toxicit aquatio	y to daphnia and other c invertebrates	:	EC50 (Daphnia m Exposure time: 44	nagna (Water flea)): 3.88 mg/l 3 h
	Toxicit	y to algae	:	EC50 (Pseudokin Exposure time: 72 Method: OECD T Remarks: Based	chneriella subcapitata (green algae)): 55 mg/l 2 h est Guideline 201 on data from similar materials
	Persis	tence and degradabil	ity		
	Ingred	lients:			

Hydrocarbons, C6, isoalkanes	s,	<5% n-hexane:
Biodegradability	:	Result: Readily biodegradable.
		Biodegradation: 98 %
		Exposure time: 28 d



Versior 5.0	n	Revision Date: 10/20/2015	SE 32	OS Number:Date of last issue: 08/20/20140534-00001Date of first issue: 12/23/2009	
				Method: OECD Te Remarks: Based o	est Guideline 301F on data from similar materials
Iso Bio	Isobutane: Biodegradability		:	Result: Readily bio Biodegradation: 1 Exposure time: 38 Remarks: Based of	odegradable. 100 % 35.5 h on data from similar materials
n- Bio	Penta odegra	ne: adability	:	Result: Readily bio Biodegradation: 8 Exposure time: 28	odegradable. 37 % 3 d
Pr Bio	r opane odegra	e: adability	:	Result: Readily bio Biodegradation: 1 Exposure time: 38 Remarks: Based of	odegradable. 100 % 35.5 h on data from similar materials
B u Bio	utane: odegra	adability	:	Result: Readily bio Biodegradation: 1 Exposure time: 38 Remarks: Based of	odegradable. 100 % 35.5 h on data from similar materials
Be Bio	enzen odegra	e, mono-C10-13-alky adability	rl de :	Result: Not reading Biodegradation: 2 Exposure time: 28	ues: y biodegradable. 28 % 3 d
n- Bio	Hexar odegra	le: adability	:	Result: Readily bid Biodegradation: S Exposure time: 28 Remarks: Based of	odegradable. 98 % 3 d on data from similar materials
Bi	ioaccu	mulative potential			
<u>In</u> Hy Pa oc	gredie ydroca artition ctanol/v	ents: arbons, C6, isoalkan coefficient: n- water	es, :	<5% n-hexane: log Pow: 3.6	
Is o Pa oc	obuta artition ctanol/v	n e: coefficient: n- water	:	log Pow: 2.8	
n- Pa oc	Penta artition	ne: coefficient: n- water	:	log Pow: 3.45	
Pr Pa oc	r opane artition ctanol/v	e: coefficient: n- water	:	log Pow: 2.31	
				19 / 23	



Versio 5.0	n Revision 10/20/20	Date: 15	SDS Number: 320534-00001	Date of last issue: 08/20/2014 Date of first issue: 12/23/2009
B I Pa	utane: artition coefficie	nt: n-	: log Pow: 2.31	
B(ctanol/water enzene, mono-	C10-13-alky	I derivs., distn. residu	ues:
Ра 00 n-	ctanol/water	nt. n-	. log Pow. > 4	
Pa	artition coefficie ctanol/water	nt: n-	: log Pow: 4	
М	obility in soil			
N	o data available)		
0	ther adverse e	ffects		
N	o data available	•		
SECTI	ON 13. DISPOS	SAL CONSIE	ERATIONS	
Di	isposal metho	ds		

Waste from residues	:	Dispose of in accordance with local regulations.
Contaminated packaging	:	Empty containers should be taken to an approved waste han- dling site for recycling or disposal. Do not burn. If not otherwise specified: Dispose of as unused product. Please ensure aerosol cans are sprayed completely empty (including propellant)

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG UN number Proper shipping name Class Packing group Labels	:	UN 1950 AEROSOLS 2.1 Not assigned by regulation 2.1
IATA-DGR UN/ID No. Proper shipping name Class Packing group Labels Packing instruction (cargo	:	UN 1950 Aerosols, flammable 2.1 Not assigned by regulation Flammable Gas 203
Packing instruction (passen-	:	203



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	ger airc	raft)			
	IMDG-Code UN number				
			: UN	N 1950	
	Proper :	shipping name	: AE	ROSOLS	
	01		(H	ydrocarbons, C6	5, isoalkanes, <5% n-hexane)
	Class	aroup	: 2.1 • No	l at assigned by re	aulation
	Labels	gloup	: 2.1		guaton
	EmS Co	ode	: F-I	D, S-U	
	Marine	pollutant	: ye	S	
	Transport in bulk accord		to Anr	nex II of MARPO	DL 73/78 and the IBC Code
	Not applicable for product a		supplied	d.	
	Domestic regulation				
	TDG				
	UN num	nber	: UN	N 1950	
	Proper	shipping name	: AE	ROSOLS	
	Class		: 2.1	1	
	Packing	group	: No	ot assigned by re	gulation
	Labels		: 2.1	1	-
	ERG Co	ode	: 12	6	
	Marine	pollutant	: ye	s (Hydrocarbons	s, C6, isoalkanes, <5% n-hexane)

SECTION 15. REGULATORY INFORMATION

WHMIS Classification	 A: Compressed Gas B5: Flammable Aerosol D2A: Very Toxic Material Causing Other Toxic Effects D2B: Toxic Material Causing Other Toxic Effects
	DZB. TOXIC Material Causing Other Toxic Effects

Volatile organic compounds (VOC) content

VOC content: 72.92 % / 485.6 g/l

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The ingredients of this product are reported in the following inventories:

DSL

: All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)



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		· Canada Albe	rta. Occupational Health and Safety Code (table				
0/1/1	DOLL	2: OEL)					
CA BC OEL		: Canada. Britis	: Canada. British Columbia OEL				
CA O	N OEL	: Ontario Table the Occupatio	: Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.				
CA Q	C OEL	: Québec. Reg ty, Schedule borne contam	: Québec. Regulation respecting occupational health and safe- ty, Schedule 1, Part 1: Permissible exposure values for air- borne contaminants				
ACGIH / TWA		: 8-hour, time-v	veighted average				
ACGI	H / STEL	: Short-term ex	posure limit				
CA A	B OEL / TWA	: 8-hour Occup	ational exposure limit				
CA A	B OEL / STEL	: 15-minute oc	cupational exposure limit				
CA B	C OEL / TWA	: 8-hour time w	eighted average				
CA B	C OEL / STEL	: short-term ex	posure limit				
CA O	N OEL / TWA	: Time-Weighte	ed Average Limit (TWA)				
CA Q	C OEL / TWAEV	: Time-weighte	d average exposure value				
CA QC OEL / STEV		: Short-term ex	Short-term exposure value				

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN -Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC -No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS -Workplace Hazardous Materials Information System

Sources of key data used to compile the Material Safety Data Sheet

: Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/



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Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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