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SDS Revision: 3.0

		1. PRODUCT & COMPANY IDENTIFICATION		
1.1 Product Name: COMPONENT COOLER, 0% VOC, (RADIOSHACK® P/N 640-4321),				
10	Chemical Name:	4.5 oz. (128 g)		
1.2 1.3	Synonyms:	See ingredients listed in section 3 1.1.1.2-Tetrafluoroethane		
1.4	Trade Names:	NA		
1.5	Product Uses & Restrictions:	Component Cooler		
1.6	Distributor's Name:	CAIG Laboratories. Inc.		
1.7	Distributor's Address:	12200 Thatcher Court, Poway, CA 92064-6876 USA		
1.8	Emergency Phone:	CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN XXXXX)		
1.9	Business Phone / Fax:	+1 (800) 224-4123		
2.1	Hazard Identification:	2. HAZARDS IDENTIFICATION This product is classified as a HAZARDOUS SUBSTANCE and as DANGEROUS GOODS		
2.1		according to the classification criteria of NOHSC: 1008(2004) and ADG Code (Australia). KEEP		
		OUT OF REACH OF CHILDREN.		
		WARNING. CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED.		
		Classification: Liquefied Gas.		
		Hazard Statements (H): H280 – Contains gas under pressure; may explode if heated.		
		Precautionary Statements (P): P280 – Wear protective gloves and eye protection. P302 + P352 - IF ON SKIN – Wash with soap and water. P333 + P313 - If skin irritation or a rash		
		occurs – Get medical advice/attention. P305+P351+P338 – IF IN EYES - Rinse continuously with		
		water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.		
		P337 + P313 - If eye irritation persists: Get medical advice/attention. P304 - IF INHALED: Move to		
		fresh air. If breathing has stopped, give artificial respiration and call physician immediately. P410 + P412 - Protect from sunlight. Do no expose to temperatures exceeding 50 °C/122°F. P410+P403 –		
		Protect from sunlight. Store in a well-ventilated place. P501 – Dispose of contents/container		
		through licensed treatment, storage or disposal facility.		
		3. COMPOSITION & INGREDIENT INFORMATION EXPOSURE LIMITS IN AIR (mg/m ³)		
		ACGIH NOHSC OSHA		
		ppm ppm ppm		
		ES- ES- ES-		
CHEMICAL NAME(S)				
		CAS No. RTECS No. EINECS No. % TLV STEL TWA STEL PEAK PEL IDLH OTHER 811-97-2 KI8842500 212-377-0 100 NA NA 4240 NF NA NA NA 1000 TWA		
	2-TETRAFLUOROTHANE			
		811-97-2 KI8842500 212-377-0 100 NA NA 4240 NF NF NA NA NA 1000 TWA Liq. Gas		
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	4. FIRST AID MEASURES – cont'd											
4.6	Target Organs:	Eyes, Skin, Respiratory Syster	n									
4.7 Medical Conditions Pre-existing dermatitis, other skin conditions, and disorders of				ALTH				1				
	Aggravated by Exposure:	target organs (eyes and skin).	Pre-	existing	cardiovas	cular or ce	entral FL		BILITY			0
		nervous system diseases.					PH	YSICA	L HAZ	ARDS		1
							PR	OTEC		QUIPM	ENT	В
							EY		[
		5. FIR	EFI	GHTI	NG ME	ASUR	ES					
5.1	Fire & Explosion Hazards:	become combustible when mi Decomposition may occur. Co refrigerant can result in visible will only occur in concentratio	This product is non-flammable. Cylinders may rupture under fire conditions. This material will become combustible when mixed with air under pressure and exposed to strong ignition sources. Decomposition may occur. Contact of welding or soldering torch flames with high concentrations of refrigerant can result in visible changes in the size and color of the torch flame. The flame effect will only occur in concentrations of product well above the recommended exposure limit, therefore stop all work and ventilate the area before proceeding. Use forced ventilation to disperse									
5.2	Extinguishing Methods:					•		naterials	S.			
5.3	Firefighting Procedures:	demand) and full protective gu spray to cool fire-exposed surf fire control or dilution from ent Firefighters must use full bun	Water, Foam, CO ₂ , Dry Chemical. Use media appropriate for surrounding materials. As in any fire, wear MSHA/NIOSH approved self-contained breathing apparatus (pressure- demand) and full protective gear. Keep containers cool until well after the fire is out. Use water spray to cool fire-exposed surfaces and to protect personal. Fight fire upwind. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.									
		6. ACCIDE			EL FAS		SURES	\$				
6.1	Spills:	Equipment (PPE). Secure sp leak at source if safely possibl appropriate personal protectiv appropriate container(s) for di	Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment (PPE). Secure spill area, remove or minimize all sources of ignition, and maximize ventilation. Stop spill or leak at source if safely possible. Deny entry to all unprotected individuals. Individuals involved in the cleanup must wear appropriate personal protective equipment. Recover free liquid or cover with inert absorbent material and place into appropriate container(s) for disposal. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers or any natural waterway or drinking supply. Contact appropriate local and/or provincial authorities for assistance and/or									
		reporting requirements.										
		7. HANDLIN	G &	STO	RAGE	INFOR	ΜΔΤΙΟ	אר				
7.1	Work & Hygiene Practices:	Use normal hygiene practices eating, drinking, or smoking.							ly after	using th	nis product a	nd before
7.2	Storage & Handling:	possible sources of ignition.	Use and store in a cool, dry, well-ventilated area. Keep away from excessive heat, open flames, sparks, and other possible sources of ignition. Do not store near or with any incompatible materials listed in section 10. Do not store in unmarked or open containers. Protect cylinders from physical damage. Do not store in subsurface areas.									
7.3	Special Precautions:	Readily available emergency f	ire, firs	st aid, a	nd spill res	ponse equ	uipment and	d/or mea	asures a	re highl	y recommend	ded.
	T	8. EXPOSURE CO			& PER		L PRO	TECT			1	
8.1	Exposure Limits: ppm (mg/m ³)				F0 7	NOHSC	F0 F5 41		OSHA		OTHER	
	ppm (m9/m)	CHEMICAL NAME(S) 1,1,1,2-TETRAFLUORO- ETHANE	TLV NA	NA	ES-TWA 4240	ES-STEL NF	ES-PEAK	PEL NA	STEL NA	IDLH NA	1000 TWA	
8.2	Ventilation & Engineering Controls:	Normal ventilation for standard manufacturing procedures is generally adequate. Local exhaust should be used when large amounts are released. Mechanical ventilation should be used in low or enclosed places. Refrigerant concentration monitors may be necessary to determine vapor concentrations in work areas prior to use of torches or other open flames, or if employees are entering enclosed areas.										
8.3	Respiratory Protection:	No special respiratory protection is required under typical circumstances of use or handling. If necessary, use only respiratory protection authorized per U.S. OSHA's requirement in 29 CFR §1910.134, or applicable U.S. state regulations, or the appropriate standards of Canada, its provinces, E.C. member states, or Australia.										
8.4	Eye Protection:	AVOID EYE CONTACT DUE TO FROSTBITE POTENTIAL. Safety glasses with side shields should be used with this product. If splashing is anticipated, splash goggles and a faceshield are recommended.										
8.5	Hand Protection:	Where contact is likely, impervious gloves are recommended. Do not wear rings, watches, or jewelry that could entrap the material against the skin. If necessary, refer to U.S. OSHA 29 CFR §1910.138, the appropriate standards of Canada, of the E.C. member states.										
8.6	Body Protection:	No special body protection is required under typical circumstances of use and handling. If necessary, refer to appropriate standards of Canada, the E.C. member states, or U.S. OSHA.										



SAFETY DATA SHEET

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0.4	Appeorance	9. PHYSICAL & CHEMICAL PROPERTIES
9.1	Appearance:	Pressurized clear liquid
9.2	Odor:	slight ethereal odor
9.3	Odor Threshold:	NA
9.4	pH:	4.00-5.00
9.5 9.6	Melting Point/Freezing Point: Initial Boiling Point/Boiling	NA
9.0	Range:	-15.1°F
9.7	Flashpoint:	NA
9.8	Upper/Lower Flammability	NA
9.9	Limits: Vapor Pressure:	4268 @ 20°C
9.10	Vapor Density:	3.3 @ 20°C
9.11	Relative Density:	NA
9.12	Solubility:	Insoluble
9.13	Partition Coefficient (log Pow):	NA
9.14	Autoignition Temperature:	NA
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	NA
9.17	Other Information:	NA
		10. STABILITY & REACTIVITY
0.1	Stability:	
10.1	Hazardous Decomposition	This product is stable.
	Products:	Warning! Hazardous decomposition products are hazardous. Thermal decomposition can yield hydrofluoric acid and possibly carbonyl fluoride. These materials are toxic and irritating. Contact should be avoided.
10.3	Hazardous Polymerization:	Will not occur.
10.4	Conditions to Avoid:	Open flames, sparks, high heat, and close proximity to incompatible substances.
0.5	Incompatible Substances:	Alkalis, and alkaline earth materials
1.1	Routes of Entry:	11. TOXICOLOGICAL INFORMATION Inhalation: YES Absorption: YES Ingestion: YES
1.2	Toxicity Data:	The product has not been tested for specific toxicity data. Animal studies, available in scientific literature, have show that this material is a slight irritant, but not a sensitizer.
11.3	Acute Toxicity:	See section 4.4
11.4	Chronic Toxicity:	See section 4.5
11.5	Suspected Carcinogen:	No
1.6	Reproductive Toxicity:	This product is not reported to produce reproductive toxicity in humans.
	Mutagenicity:	Tests have shown that this material does not cause genetic damage in bacterial or mammalian cell cultures, or animals.
	Embryotoxicity:	Animal data shows slight fetotoxicity but only at exposure levels producing other toxic effects in the adult animal.
	Teratogenicity:	This product is not reported to produce teratogenic effects in humans.
	Reproductive Toxicity:	In a 2-year inhalation study, HFC-134A, at a concentration of 50,000 ppm, produced an increase in late-occurring benig testicular tumors, testicular hyperplasia and testicular weight in mice. The no-effect-level for this study was 10,000ppm However, no change in reproductive performance was reported.
11.7	Irritancy of Product:	Slight
11.8	Biological Exposure Indices:	NE
11.9	Physician Recommendations:	Treat symptomatically. Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrin should only be used with special caution in situations of emergency life support.
		12. ECOLOGICAL INFORMATION
12.1	Environmental Stability:	The components of this product will slowly degrade over time into a variety of organic compounds. Specif environmental data available for the components of this product are available, but are not presented in this Safety Dat Sheet.
12.2	Effects on Plants & Animals:	EC_{50} (Daphnia magna, 48h): 980 mg/L; LC_{50} (Rainbow trout, 96h): 450 mg/L
12.3	Effects on Aquatic Life:	There are no specific data available for this product; however, very large releases of this product may be harmful or fat to overexposed aquatic life.
		13. DISPOSAL CONSIDERATIONS
3.1	Waste Disposal:	Dispose of in accordance with federal, state and local regulations.
13.2	Special Considerations:	If the material is unsuitable for recycling or reclamation, enclosed-controlled incineration is recommended unles
	1	otherwise prohibited by local ordinance.



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Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards

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14. TRANSPORTATION INFORMATION

The basic description (ID Number, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

14.1	49 CFR (GND):	CONSUMER COMMODITY, ORM-D, DOT-SP 10232 (IP VOL ≤ 1.0 L) - until 01/01/2021
		UN3159, 1,1,1,2-TETRAFLUOROETHANE, 2.2 (LTD QTY, IP VOL ≤ 1.0 L)
14.2	IATA (AIR):	UN3159, 1,1,1,2-TETRAFLUOROETHANE, 2.2 (LTD QTY, IP VOL ≤ 820 mL)
14.3	IMDG (OCN):	UN3159, 1,1,1,2-TETRAFLUOROETHANE, 2.2 (LTD QTY, IP VOL ≤ 1.0 L)
14.4	TDGR (Canadian GND):	UN3159, 1,1,1,2-TETRAFLUOROETHANE, 2.2 (LTD QTY, IP VOL ≤ 1.0 L); or MARK PACKAGE "LIMITED QUANTITY/QUANTITÉ LIMITÉE" or "LTD QTY/QUANT LTÉE" (IP VOL ≤ 1.0 L)
14.5	ADR/RID (EU):	UN3159, 1,1,1,2-TETRAFLUOROETHANE, 2.2 (LTD QTY, IP VOL ≤ 1.0 L)
14.6	SCT (MEXICO):	UN3159, 1,1,1,2-TETRAFLUOROETHANE, 2.2 (LTD QTY, IP VOL ≤ 1.0 L)
14.7	ADGR (AUS):	UN3159, 1,1,1,2-TETRAFLUOROETHANE, 2.2 (LTD QTY, IP VOL ≤ 1.0 L)

		15. REGULATORY INFORMATION
15.1	SARA Reporting Requirements:	This product does not contain any substances subject to SARA Title III, section 313 reporting requirements.
15.2	SARA Threshold Planning Quantity:	There are no specific Threshold Planning Quantities for the components of this product.
15.3	TSCA Inventory Status:	The components of this product are listed on the TSCA Inventory.
15.4	CERCLA Reportable Quantity (RQ):	NA
15.5	Other Federal Requirements:	This product complies with the appropriate sections of the Food and Drug Administration's 21 CFR subchapter G (Cosmetics). This material does not contain any hazardous air pollutants. None of the components in this product are listed as priority pollutants under the CWA. None of the components in this product are listed as toxic pollutants under the CWA.
15.6	Other Canadian Regulations:	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 components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List. WHMIS A (Compressed Gas)
15.7	State Regulatory Information:	<u>1,1,1,2-Tetrafluoroethane</u> is listed on the following state lists: California Right-to-Know List; Minnesota Right-to Know list; Massachusetts Right to Know List of Chemicals; New Jersey Right to Know List 8:59 Appendix A.No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI).
15.8	Other Requirements:	The primary components of this product are not listed in Annex I of EU Directive 67/548/EEC: Irritant (Xi). <u>Risk Phrases</u> (R): 36 – Irritating to eyes. <u>Safety Phrases</u> (S): 2-25-26 – Keep out of reach of children. Avid contact with eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.



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		16. OTHER INFO	RMATION
16.1	Other Information:	WARNING! CONTAINS GAS UNDER PRESSUR	E – MAY EXPLODE IF HEATED.
		FIRST AID: IF ON SKIN – Wash with soap and w	vater. If skin irritation or a rash occurs – Get medical advice/attention.
		IF IN EYES - Rinse continuously with water for s	several minutes. Remove contact lenses if present and easy to do -
		continue rinsing. If eye irritation persists: Get me	dical advice/attention. FROSTBITE: Call physician immediately. IF
		INHALED: Move to fresh air. If breathing has s	stopped, give artificial respiration and call physician immediately. IF
		SWALLOWED: Call physician immediately. DO N	IOT induce vomiting. If conscious, give two glasses of water. Never
		give an unconscious person anything by mouth.	
		PRECAUTIONS: Do not expose to heat or store	e at temperatures above 120°F. Do not store in direct sunlight or
		enclosed vehicle as the container may explode.	Near safety glasses or goggles when using. Contact with liquid can
		cause irritation, freezing of tissues (frostbite), or te	emporary corneal injury. WARNING: Inhalation of concentrated levels
		can cause dizziness, ventricular arrhythmia or	even death. Use only with adequate ventilation. Avoid prolonged
		breathing of vapors or spray. USE AND STORI	E IN WELL VENTILATED AREAS. KEEP OUT OF REACH OF
		CHILDREN.	
16.2	Terms & Definitions:	See last page of this Safety Data Sheet.	
16.3	Disclaimer:	government regulations must be reviewed for a Laboratories', knowledge, the information container suitability or completeness are not guaranteed and The information contained herein relates only to	HA's Hazard Communication Standard, 29 CFR §1910.1200. Other applicability to this product. To the best of ShipMate's & CAIG ad herein is reliable and accurate as of this date; however, accuracy, I no warranties of any type, either expressed or implied, are provided. The specific product(s). If this product(s) is combined with other lered. Data may be changed from time to time. Be sure to consult the
16.4	Prepared for:	CAIG Laboratories, Inc.	
		12200 Thatcher Court Poway, CA 92064-6876	
		Tel: +1 (800) CAIG-123 (244-4123)	
		Fax: +1 (858) 486-8398 fax	LABORATORIES, INC.
		http://www.caig.com/	
16.5	Prepared by:	ShipMate, Inc.	
		P.O. Box 787 Sisters, Oregon 97759-0787 USA	
		Tel: +1 (310) 370-3600	* Snipiviate
		Fax: +1 (310) 370-5700	Dangerous Goods Training & Consulting
		http://www.shipmate.com	training & consuming



Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards

SDS Revision: 3.0

SDS Revision Date: 6/10/2015

DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these that are commonly used include the following:

GENERAL INFORMATION:

CAS No.	Chemical Abstract Service Number				
EXPOSURE	EXPOSURE LIMITS IN AIR:				
ACGIH	American Conference on Governmental Industrial Hygienists				
C	Ceiling Limit				
ES	Exposure Standard (Australia)				
IDLH	Immediately Dangerous to Life and Health				
OSHA	U.S. Occupational Safety and Health Administration				
PEL	Permissible Exposure Limit				
STEL	Short-Term Exposure Limit				
TLV	Threshold Limit Value				
TWA	Time Weighted Average				

FIRST AID MEASURES:

CPR	Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.		
HMIS-III HEA	HMIS-III HEALTH, FLAMMABILITY & REACTIVITY RATINGS:		

	,	
0	Minimal Hazard	HEALTH
1	Slight Hazard	FLAMMABILITY
2	Moderate Hazard	PHYSICAL HAZARDS
3	Severe Hazard	PERSONAL PROTECTION
4	Extreme Hazard	

PERSONAL PROTECTION RATINGS:

A Image: Second Structure Stru								
C I	Α			G	9			
D Image: Construct of the second	в			н	8		E 1	
E Image: Construct of the second	С			I	0			
F Image: Construct of the second	D	B		J	0		Î	
Image: Constraint of the system of the sy	Е			к	I			3
Safety Glasses Splash Goggles Protective Eyewear Gloves Image: Boots Image: Synthetic Apron Image: S	F			x				
Boots Synthetic Apron & Full Suit Dust Respirator Full Face Respirator Dust & Vapor Half- Mask Respirator Full Face Respirator Airline Hood/Mask or SCBA OTHER STANDARD ABBREVIATIONS: Image: Standard Stand	Sa	Safety Glasses Splash Goggles						s
Full Face Respirator Mask Respirator Respirator or SCBA OTHER STANDARD ABBREVIATIONS: ML Maximum Limit mg/m3 milligrams per cubic meter NA Not Available ND Not Determined NE Not Established NF Not Found NR Ne esults ppm parts per million SCBA Self-Contained Breathing Apparatus		Boots Synthetic Apron				ing I	Oust Resp	birator
ML Maximum Limit mg/m3 milligrams per cubic meter NA Not Available ND Not Determined NE Not Established NF Not Found NR Nesults ppm parts per million SCBA Self-Contained Breathing Apparatus	1					Ai		
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NF Not Found NR No Results ppm parts per million SCBA Self-Contained Breathing Apparatus	L							
NR No Results ppm parts per million SCBA Self-Contained Breathing Apparatus								
ppm parts per million SCBA Self-Contained Breathing Apparatus								
SCBA Self-Contained Breathing Apparatus								
	<u> </u>			pparatus				
	ΝΔΤ							

NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

FLAMMABILITY LIMITS IN AIR:

Autoignition	Minimum temperature required to initiate combustion in air with no other
Temperature	source of ignition
LEL	Lower Explosive Limit - lowest percent of vapor in air, by volume, that will
	explode or ignite in the presence of an ignition source
UEL	Upper Explosive Limit - highest percent of vapor in air, by volume, that will
	explode or ignite in the presence of an ignition source

HAZARD RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard
ACD	Acidic
ALK	Alkaline
COR	Corrosive
₩	Use No Water
OX	Oxidizer
TREFOIL	Radioactive



TOXICOLOGICAL INFORMATION:

LD ₅₀	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
	S
LC ₅₀	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts
TD _{lo}	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD _{lo} , LD _{lo} , & LD _o or	Lowest dose (or concentration) to cause lethal or toxic effects
TC, TC _o , LC _{io} , & LC _o	
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RTECS	Registry of Toxic Effects of Chemical Substances
BCF	Bioconcentration Factor
TLm	Median threshold limit
log Kow or log Koc	Coefficient of Oil/Water Distribution

REGULATORY INFORMATION:

WHMIS	Canadian Workplace Hazardous Material Information System
DOT	U.S. Department of Transportation
TC	Transport Canada
EPA	U.S. Environmental Protection Agency
DSL	Canadian Domestic Substance List
NOHSC	National Occupational Health and Safety Commission (Australia)
NDSL	Canadian Non-Domestic Substance List
PSL	Canadian Priority Substances List
TSCA	U.S. Toxic Substance Control Act
EU	European Union (European Union Directive 67/548/EEC)
WGK	Wassergefährdungsklassen (German Water Hazard Class)

HMIS-III National Paint & Coatings Association Hazardous Materials Identification System WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

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Class A	Class B	Class C	Class D1	Class D2	Class D3	Class E	Class F
Compressed	Flammable	Oxidizing	Toxic	Irritation	Infectious	Corrosive	Reactive

EC (67/548/EEC) INFORMATION:

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с	E	F	Ν	0	т	Xi	Xn
Corrosive	Explosive	Flammable	Harmful	Oxidizing	Toxic	Irritant	Harmful

CLP/GHS (1272/2008/EC) PICTOGRAMS:

			\Diamond					
GHS01	GHS02	GHS03	GHS04	GHS05	GHS06	GHS07	GHS08	GHS09
Explosive	Flammable	Oxidizer	Pressurized	Corrosive	Toxic	Harmful Irritating	Health Hazard	Environment