

Safety data sheet

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name **DRY CLEANER SPRAY 400 mL**

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

Intended use **PROFESSIONAL CLEANING PRODUCTS**

1.3. Details of the supplier of the safety data sheet

Ragione Sociale **AR-CO CHIMICA S.R.L.**
Indirizzo **Via Canalazzo 22/24**
Località e Stato **41036 MEDOLLA (MO)**
ITALY
tel. +39 053558890
fax +39 053558898

e-mail della persona competente,
responsabile della scheda dati di sicurezza **reach@arcochimica.it**

1.4. Emergency telephone number

Numeri telefonici dei principali Centri Antiveleni italiani (attivi 24/24 ore) Centro Antiveleni di Milano 02 66101029 (CAV Ospedale Niguarda Ca' Granda - Milano) (H24) Centro Antiveleni di Pavia 0382 24444 (CAV IRCCS Fondazione Maugeri - Pavia) Centro Antiveleni di Bergamo 800 883300 (CAV Ospedali Riuniti - Bergamo) Centro Antiveleni di Firenze 055 7947819 (CAV Ospedale Careggi - Firenze) Centro Antiveleni di Roma 06 3054343 (CAV Policlinico Gemelli - Roma) Centro Antiveleni di Roma 06 49978000 (CAV Policlinico Umberto I - Roma) Centro Antiveleni di Napoli 081 7472870 (CAV Ospedale Cardarelli - Napoli) AR-CO CHIMICA +39 053558890 (ORE UFFICIO / OFFICE HOURS 08:00-12:30 / 14:00-17:30)

SECTION 2. Hazards identification.

2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

2.1.1. Regulation 1272/2008 (CLP) and following amendments and adjustments.

Hazard classification and indication:

Aerosol, category 1	H222 H229	Extremely flammable aerosol. Pressurised container: may burst if heated.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

2.1.2. 67/548/EEC and 1999/45/EC Directives and following amendments and adjustments.

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Danger Symbols:

Xi

R phrases:

43-52/53

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

2.2. Label elements.

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words:

Danger

Hazard statements:

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P280	Wear protective gloves.
P302+P352	IF ON SKIN: wash with plenty of water / . . .
P333+P313	If skin irritation or rash occurs: get medical advice.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.

Contains: (R)-P-MENTHA-1,8-DIENE

2.3. Other hazards.

Information not available.

SECTION 3. Composition/information on ingredients.

3.1. Substances.

Information not relevant.

3.2. Mixtures.

Contains:

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Identification.	Conc. %.	Classification 67/548/EEC.	Classification 1272/2008 (CLP).
Cyclopentane			
CAS. 287-92-3	15 - 30	F R11, R52/53	Flam. Liq. 2 H225, Aquatic Chronic 3 H412
EC. 206-016-6			
INDEX. 601-030-00-2			
BUTANE			
CAS. 106-97-8	15 - 30	F+ R12, Note C U	Flam. Gas 1 H220, Note C U
EC. 203-448-7			
INDEX. 601-004-00-0			
Reg. no. 01-2119474691-32-xxxx			
PROPANE			
CAS. 74-98-6	5 - 15	F+ R12, Note U	Flam. Gas 1 H220, Note U
EC. 200-827-9			
INDEX. 601-003-00-5			
Reg. no. 01-2119486944-21-xxxx			
PETROLEUM DISTILLATE HYDROTREATED			
CAS. -	10 - 15	Xn R65, R66	Asp. Tox. 1 H304, EUH066
EC. 918-481-9			
INDEX. -			
Reg. no. 01-2119457273-39			
NAPHTHA (PETROLEUM), HYDRODESULFURIZED LIGHT, DEAROMATIZED			
CAS. 92045-53-9	5 - 10	Xn R65, Note P	Asp. Tox. 1 H304, Note P
EC. 295-434-2			
INDEX. 649-383-00-1			
Isobutane			
CAS. 75-28-5	1 - 5	F+ R12, Note C	Flam. Gas 1 H220, Note C
EC. 200-857-2			
INDEX. 601-004-00-0			
(R)-P-MENTHA-1,8-DIENE			
CAS. 5989-27-5	1 - 2,5	R10, Xi R38, Xi R43, N R50/53, Note C	Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410, Note C
EC. 227-813-5			
INDEX. 601-029-00-7			

Note: Upper limit is not included into the range.

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely Flammable(F+), F = Highly Flammable(F), N = Dangerous for the Environment(N)

SECTION 4. First aid measures.

4.1. Description of first aid measures.

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

SECTION 5. Firefighting measures.

5.1. Extinguishing media.

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

If overheated, aerosol cans can deform, explode and be propelled considerable distances. Put a protective helmet on before approaching the fire. Do not breathe combustion products.

5.3. Advice for firefighters.

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures.

6.1. Personal precautions, protective equipment and emergency procedures.

Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site. Send away individuals who are not suitably equipped. Wear protective gloves / protective clothing / eye protection / face protection.

6.2. Environmental precautions.

Do not disperse in the environment.

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6.3. Methods and material for containment and cleaning up.

Use inert absorbent material to soak up leaked product. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections.

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage.

7.1. Precautions for safe handling.

Avoid bunching of electrostatic charges. Do not spray on flames or incandescent bodies. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Do not eat, drink or smoke during use. Do not breathe spray.

7.2. Conditions for safe storage, including any incompatibilities.

Store in a place where adequate ventilation is ensured, away from direct sunlight at a temperature below 50°C, away from any combustion sources.

7.3. Specific end use(s).

Information not available.

SECTION 8. Exposure controls/personal protection.

8.1. Control parameters.

Regulatory References:

BEL	Belgique	AR du 11/3/2002. La liste est mise à jour pour 2010
CHE	Suisse / Schweiz	Valeurs limites d'exposition aux postes de travail 2012. / Grenzwerte am Arbeitsplatz
DEU	Deutschland	MAK-und BAT-Werte-Liste 2012
ESP	España	Publicación: Límites de Exposición Profesional para Agentes Químicos en Espana 2012
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
GRB	United Kingdom	EH40/2005 Workplace exposure limits
GRC	Ελλάδα	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ -ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012
IRL	Éire TLV-ACGIH	Code of Practice Chemical Agent Regulations 2011 ACGIH 2014

BUTANE

Threshold Limit Value.

Type	Country	TWA/8h	STEL/15min
		mg/m3	ppm
		ppm	mg/m3
			ppm

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VLEP	BEL		1000				SKIN.
VEL	CHE	1900	800				
MAK	CHE	1900	800				
AGW	DEU	2400	1000	9600	4000		
MAK	DEU	2400	1000	9600	4000		
VLA	ESP		800				
VLEP	FRA	1900	800				
WEL	GRB	1450	600	1810	750		
TLV	GRC	2350	1000				
OEL	IRL		1000			750	
TLV-ACGIH				2377	1000		

PROPANE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
AGW	DEU	1800	1000	7200	4000
MAK	DEU	1800	1000	7200	4000
TLV	GRC	1800	1000		
TLV-ACGIH			1000		

PETROLEUM DISTILLATE HYDROTREATED

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH		1200	184		

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers. Acute local	Effects on consumers			Effects on workers			
		Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation.	VND	VND						

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	110	20	220	40	
MAK	DEU	28	5	112	20	SKIN.

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

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When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

None required.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, a mask with a type AX filter combined with a type P filter should be worn (see standard EN 14387).

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

ENVIRONMENTAL EXPOSURE CONTROLS.

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties.

9.1. Information on basic physical and chemical properties.

Appearance	aerosol
Colour	colourless
Odour	characteristic
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	< -5 °C.
Initial boiling point.	Not available.
Boiling range.	Not available.
Flash point.	Not available.
Evaporation Rate	Not available.
Flammability of solids and gases	flammable gas
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	1,8 % (V/V).
Upper explosive limit.	9,5 % (V/V).
Vapour pressure.	3,4 Bar a 15°C
Vapour density	< 1 (Aria = 1)
Relative density.	0,67 Kg/l
Solubility	immiscible with water
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	> 270 °C.
Decomposition temperature.	Not available.
Viscosity	> 7 cSt
Explosive properties	not applicable
Oxidising properties	not applicable

9.2. Other information.

Solid content. 23,00 %

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VOC (Directive 1999/13/EC) : 77,00 % - 515,90 g/litre.
VOC (volatile carbon) : 40,01 % - 268,06 g/litre.

SECTION 10. Stability and reactivity.

10.1. Reactivity.

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions.

No hazardous reactions are foreseeable in normal conditions of use and storage.

10.4. Conditions to avoid.

Avoid overheating.

10.5. Incompatible materials.

Strong reducing or oxidising agents, strong acids or alkalis, hot material.

10.6. Hazardous decomposition products.

Information not available.

SECTION 11. Toxicological information.

11.1. Information on toxicological effects.

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Upon contact with skin, this product causes sensitization (dermatitis). Dermatitis derives from skin irritation on the areas which repeatedly come into contact with the sensitizing agent. Cutaneous lesions may include: erythemas, edemas, papules, vesicles, pustules, scurves, ulcerations and exudative phenomena, whose intensity varies according to illness seriousness and affected areas. Erythemas, edemas and exudative phenomena prevail during the acute phase. Scurfy skin, dryness, ulcerations and skin thickening prevail during the chronic phase.

NAPHTHA (PETROLEUM), HYDRODESULFURIZED LIGHT, DEAROMATIZED

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LD50 (Oral).> 5000 mg/kg Rat
LD50 (Dermal).> 2000 mg/kg Rabbit

PETROLEUM DISTILLATE HYDROTREATED

LD50 (Oral).> 5000 mg/kg RAT (OCSE 401)
LD50 (Dermal).> 5000 mg/kg RABBIT (OCSE 402)
LC50 (Inhalation).> 4591 mg/l RAT (OCSE403)

SECTION 12. Ecological information.

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity.

(R)-P-MENTHA-1,8-DIENE

LC50 - for Fish. 35 mg/l/96h *Oncorhynchus mykiss*
EC50 - for Crustacea. 69,6 mg/l/48h *Daphnia pulex*

NAPHTHA
(PETROLEUM),
HYDRODESULFURIZED
LIGHT, DEAROMATIZED

LC50 - for Fish. 8,2 mg/l/96h *Pimephales promelas*
EC50 - for Crustacea. 4,5 mg/l/48h *Daphnia magna*
EC50 - for Algae /
Aquatic Plants. 3,1 mg/l/72h *Pseudokirchnerella subcapitata*

PETROLEUM DISTILLATE
HYDROTREATED

EC50 - for Crustacea. 1000 mg/l/48h (*Daphnia Magna*) (ELO)
EC50 - for Algae /
Aquatic Plants. 1000 mg/l/72h (*Oncorhynchus Mykiss*)
LC10 for Fish. 1000 mg/l/96h (*Pseudokirchneriella*) (ELO)

12.2. Persistence and degradability.

(R)-P-MENTHA-1,8-DIENE

Solubility in water. mg/l 0,1 - 100
Rapidly biodegradable.

BUTANE

Solubility in water. mg/l 0,1 - 100
Rapidly biodegradable.

NAPHTHA (PETROLEUM),
HYDRODESULFURIZED
LIGHT, DEAROMATIZED
Rapidly biodegradable.

Safety data sheet

PROPANE

Solubility in water. mg/l 0,1 - 100

Rapidly biodegradable.

PETROLEUM DISTILLATE HYDROTREATED

Biodegradability: Information not available.

12.3. Bioaccumulative potential.

(R)-P-MENTHA-1,8- DIENE

Partition coefficient: n-
octanol/water. 4,38

BCF. 1022

BUTANE

Partition coefficient: n-
octanol/water. 1,09

PROPANE

Partition coefficient: n-
octanol/water. 1,09

12.4. Mobility in soil.

NAPHTHA (PETROLEUM), HYDRODESULFURIZE D LIGHT, DEAROMATIZED

Partition coefficient: 2
soil/water.

12.5. Results of PBT and vPvB assessment.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects.

Information not available.

SECTION 13. Disposal considerations.

13.1. Waste treatment methods.

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Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Avoid littering. Do not contaminate soil, sewers and waterways.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information.

These goods must be transported by vehicles authorized to the carriage of dangerous goods according to the provisions set out in the current edition of the Code of International Carriage of Dangerous Goods by Road (ADR) and in all the applicable national regulations. These goods must be packed in their original packagings or in packagings made of materials resistant to their content and not reacting dangerously with it. People loading and unloading dangerous goods must be trained on all the risks deriving from these substances and on all actions that must be taken in case of emergency situations.

Road and rail transport:



ADR/RID Class:	2	UN:	1950
Packing Group:	-		
Label:	2.1		
Nr. Kemler:	--		
Limited Quantity:	1 L		
Tunnel restriction code:	(D)		
Proper Shipping Name:	AEROSOLS		

Carriage by sea (shipping):



IMO Class:	2.1	UN:	1950
Packing Group:	-		
Label:	2.1		
EMS:	F-D, S-U		
Marine Pollutant:	NO		
Proper Shipping Name:	AEROSOLS		

Transport by air:



IATA:	2	UN:	1950
Packing Group:	-		
Label:	2.1		
Cargo:			
Packaging instructions:	203	Maximum quantity:	150 Kg
Pass.:			
Packaging instructions:	203	Maximum quantity:	75 Kg
Special Instructions:	A145, A167, A802		
Proper Shipping Name:	AEROSOLS		

Safety data sheet

SECTION 15. Regulatory information.

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

Seveso category. None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

None.

Substances in Candidate List (Art. 59 REACH).

None.

Substances subject to authorisation (Annex XIV REACH).

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information.

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

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Flam. Gas 1	Flammable gas, category 1
Aerosol 1	Aerosol, category 1
Aerosol 3	Aerosol, category 3
Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Asp. Tox. 1	Aspiration hazard, category 1
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

R10	FLAMMABLE.
R11	HIGHLY FLAMMABLE.
R12	EXTREMELY FLAMMABLE.
R38	IRRITATING TO SKIN.
R43	MAY CAUSE SENSITISATION BY SKIN CONTACT.
R50/53	VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R52/53	HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R65	HARMFUL: MAY CAUSE LUNG DAMAGE IF SWALLOWED.
R66	REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%

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- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Directive 1999/45/EC and following amendments
 2. Directive 67/548/EEC and following amendments and adjustments
 3. Regulation (EU) 1907/2006 (REACH) of the European Parliament
 4. Regulation (EU) 1272/2008 (CLP) of the European Parliament
 5. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 6. Regulation (EU) 453/2010 of the European Parliament
 7. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 8. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 9. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 10. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 11. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - Niosh - Registry of Toxic Effects of Chemical Substances
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - ECHA website

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.