

Safety Passport

Material Name: PANA SPRAY Plus

SDS ID: NSK-SDS-002(EN_RU)_Rev000

SECTION 1: Identification of the chemical product and manufacturer or supplier information

1.1 Identification of chemical product

1.1.1 Technical name

PANA SPRAY Plus

Product Description

1.1.2 Short recommendations for use (including restrictions on use)

Identified uses

Cleaning and lubrication for dental and surgical handpieces

Uses advised against

None known

1.2 Information about the Manufacturer and/or Supplier

1.2.1 Full official name of organization:

NSK Rus&CIS

1.2.2 Address:

2, Entuziastov bulvar

11th floor

Moscow 109544

Russia

1.2.3 Telephone/Emergency Phone #:

+7 495 967 96 07

1.2.4 Fax:

+7 495 967 96 08

1.2.5 E-mail:

info@nsk-nakanishi.ru

SECTION 2: Hazards identification

2.1 Hazards of the product in accordance with GOST 12.1.007-76 and GHS

Flammable Liquids - Category 2

Aspiration Hazard - Category 1

Serious Eye Damage/Eye Irritation - Category 2A

Germ Cell Mutagenicity - Category 1B

Specific Target Organ Toxicity - Single Exposure - Category 3

Specific Target Organ Toxicity - Repeated Exposure - Category 1 (liver)

Specific Target Organ Toxicity - Repeated Exposure - Category 2 (nervous system)

2.2 Information about precautionary labelling according to GOST 31340-2007

2.2.1 Signal Word

Danger

2.2.2 Hazard Symbols

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2.2.3 Hazard statements

- H225** Highly flammable liquid and vapor.
- H304** May be fatal if swallowed and enters airways.
- H319** Causes serious eye irritation.
- H340** May cause genetic defects.
- H336** May cause drowsiness or dizziness.
- H372** Causes damage to organs through prolonged or repeated exposure.
- H373** May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention

- P201** Obtain special instructions before use.
- P202** Do not handle until all safety precautions have been read and understood.
- P233** Keep container tightly closed.
- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P240** Ground/Bond container and receiving equipment.
- P241** Use explosion-proof electrical/ventilating/lighting equipment.
- P243** Take action to prevent static discharges.
- P242** Use non-sparking tools.
- P271** Use only outdoors or in a well-ventilated area.
- P280** Wear protective gloves/protective clothing/eye protection/face protection.
- P260** Do not breathe dust/fume/gas/mist/vapors/spray.
- P264** Wash thoroughly after handling.
- P270** Do not eat, drink or smoke when using this product.

Response

- P370+P378** In case of fire: Use appropriate media to extinguish.
- P308+P313** IF exposed or concerned: Get medical advice/attention.
- P304+P340** IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P303+P361+P353** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P301+P310** IF SWALLOWED: Immediately call a POISON CENTER/doctor.
- P331** Do NOT induce vomiting.
- P312** Call a POISON CENTER or doctor if you feel unwell.

Storage

- P403+P233** Store in a well-ventilated place. Keep container tightly closed.
- P403+P235** Keep cool.
- P405** Store locked up.

Disposal

- P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

None known.

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SECTION 3: Composition / information on ingredients

3.1 Information about the product as a whole

3.1.1 Chemical name (according to IUPAC)

Not available.

3.1.2 Chemical formula

Not available.

3.1.3 General characteristics of composition (taking into account the brand assortment; method for producing)

Not available.

3.2. Components (name, CAS and EC numbers, mass fractions (totalling 100%), MAC (Maximum Allowable Concentrations) or TAEL (Tentative Allowable Exposure Level), hazard classifications and references to the sources of data)

Components (name)	Mass fraction (wt %)	Hygiene Standards in working zone area		CAS Number	EC Number
		MAC or TAEL, mg/m ³	Hazard Class		
Butane	25-35	--	Flam. Gas 1 - H220 Note(s): C, U	106-97-8	203-448-7
Ethyl alcohol	25-35	--	Flam. Liq. 2 - H225	64-17-5	200-578-6
Propane	15-25	--	Flam. Gas 1 - H220 Note(s): U	74-98-6	200-827-9
Isobutane	5-15	--	Flam. Gas 1 - H220 Note(s): C, U	75-28-5	200-857-2
Non hazardous	5-10	--	--	N/A	--

SECTION 4: First aid measures

4.1 Observed symptoms

4.1.1 If inhaled:

May cause drowsiness or dizziness.

4.1.2 In contact with skin:

No significant adverse effects expected.

4.1.3 In contact with eyes:

Causes serious eye irritation.

4.1.4 If swallowed:

May be fatal if swallowed and enters airways.

4.2 Measures to provide first aid

4.2.1 If inhaled:

Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Call a POISON CENTER or doctor/physician.

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4.2.2 In contact with skin:

Wash with plenty of soap and water. Take off immediately all contaminated clothing and wash it before reuse. Call a POISON CENTER or doctor/physician.

4.2.3 In contact with eyes:

Flush eyes with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/physician.

4.2.4 If swallowed:

Rinse mouth. Call a POISON CENTER or doctor/physician.

4.2.5 Contraindications:

No information available for the product.

Note to Physicians

Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 General description of fire and explosion hazards (according to GOST 12.1.044-89)

Highly flammable liquid and vapor. Risk of explosion if heated under confinement.

5.2 Indicators of fire and explosion hazards (nomenclature indicators according to GOST 12.1.044-89 and GOST 30852.0-2002)

Highly flammable liquid and vapor. Risk of explosion if heated under confinement.

5.3 Combustion and/or thermal degradation products and hazards caused by them

Irritating and toxic gases or fumes may be released during a fire: carbon monoxide, oxides of nitrogen.

5.4 Recommended extinguishing media

Carbon dioxide, foam, powder, fire-fighting foam, dry sand.

5.5 Unsuitable extinguishing media

Do not use high-pressure water streams.

5.6 Personal protective equipment for fire fighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

5.7 Specific measures for extinguishing the fire

Eliminate all ignition sources if safe to do so. Do not spray on an open flame or other ignition sources. If safe to do so, move undamaged containers from the fire area. Keep unnecessary people away, isolate hazard area and deny entry. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Prevent entry into sewers, drains, ditches, underground or confined spaces and waterways.

SECTION 6: Accidental release measures

6.1 Measures to prevent harmful effects on people, the environment, buildings, surroundings and others in accident and emergency situations

6.1.1 Necessary general actions in accidents and emergency situations

Eliminate all ignition sources if safe to do so. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

6.1.2 Personal Protection Means for emergency situations

Wear personal protective clothing and equipment, see Section 8.

6.2 Procedure for elimination of accidents and emergencies

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6.2.1 Instructions in case of leaks, spills, deposits

Avoid release to the environment.

6.2.2 Instructions in case of fire

Do not spray on an open flame or other ignition sources. Keep unnecessary people away, isolate hazard area and deny entry. If safe to do so, move undamaged containers from the fire area. Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Let the fire burn. Avoid inhalation of material or combustion by-products. Stay away from the ends of tanks. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

SECTION 7: Handling and storage

7.1 Safety measures when handling chemicals

7.1.1 Systems of engineering safety measures

Pressurized container: Do not pierce or burn, even after use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take action to prevent static discharges. Use non-sparking tools. Do not spray on an open flame or other ignition sources. Wash thoroughly after handling.

7.1.2 Measures for the protection of the environment

Avoid release to environment.

7.1.3 Recommendations for safe moving and transportation

No information available.

7.2 Conditions for safe storage of chemicals

7.2.1 Conditions and terms of safe storage

Store in a well-ventilated place. Keep container tightly closed.

Keep cool.

Store locked up.

Further information on storage conditions: Keep out of reach of children. Keep away from perchloric acid, hydrogen peroxide water, sodium peroxide, chromic acid, nitric acid, oxidizing materials, etc. Keep away from flame. Use explosion-proof electrical equipment. Grounding of equipment is recommended. Store and handle in accordance with all current regulations and standards: Industrial Safety and Health Act.

7.2.2 Containers and packaging (including the materials from which they are made)

Packaging materials. Container - High Pressure Gas Safety Act. Keep only in original container.

7.3 Safety measures and storage for domestic settings

Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Incompatible Materials

Strong acid, strong alkali, oxidizing materials, calcium hypochlorite, silver oxide

SECTION 8: Exposure controls/personal protection

8.1. Mandatory working zone concentration limits (MACs or TAELs)

Russia:

Butane	106-97-8
TWA:	300 mg/m ³ TWA vapor
STEL:	900 mg/m ³ STEL vapor

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ACGIH:	1000 ppm STEL (explosion hazard)
Ethyl alcohol	64-17-5
TWA:	1000 mg/m3 TWA vapor
STEL:	2000 mg/m3 STEL vapor
ACGIH:	1000 ppm STEL
Propane	74-98-6
ACGIH:	(See Appendix F: Minimal Oxygen Content, explosion hazard)
Isobutane	75-28-5
ACGIH:	1000 ppm STEL (explosion hazard)

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

8.2 Measures to ensure the content of harmful substances in the allowable concentrations

Ventilation

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present.

Engineering controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Environmental exposure controls

Avoid release to environment.

8.3 Personal protective equipment

8.3.1 General recommendations

Use recommended personal protective equipment.

8.3.2 Respiratory protection

Consult with a health and safety professional for specific respirators appropriate for your use. Respirators depend on exposure level. SCBA with full face piece recommended during change outs and available in case of emergency.

8.3.3 Protective equipment

Wear suitable protective equipment.

Eye/face protection

Wear splash resistant safety goggles with a faceshield

Skin Protection

Wear appropriate chemical resistant clothing Wear fire-resistant protective clothing.

Glove Recommendations

Wear appropriate chemical resistant gloves.

8.3.4 Personal protection equipment

No additional information.

SECTION 9: Physical and chemical properties

9.1 Physical State

Physical Form: Clear and colorless alcohol odor liquid / Clear and colorless aerosol under atmospheric pressure

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9.2 Parameters characterizing the basic properties of the products

Appearance	Clear colorless liquid	Clear colorless aerosol
Odor	Alcohol	Odiferous
Odor Threshold	Not available	Not available
pH Solution	N/A	N/A
Boiling Point	78.32 °C at 101.325 kPa (as Ethanol)	-42.1 °C ~ -0.5 °C
Freezing point	Not available	Not available
Flammability (solid, gas)	Highly flammable	Extremely flammable
Flash Point	>13 °C [Closed Cup] (as Ethanol)	-104.4 °C ~ -73.8 °C
Decomposition temperature	Not available	Not available
Vapor Pressure	Not available	0.248 ~ 1.275 MPa (40□)
Specific Gravity (water=1)	0.803 at 20 °C	0.551 at 15 °C
Partition coefficient: n-octanol/water	-0.3 (log Pow) (as Ethanol)	Not available
Kinematic viscosity	Not available	Not available
Density	Not available	Not available
Molecular Weight	Not available	Not available
Physical State	liquid	aerosol under atmospheric pressure
Color	Clear colorless	Clear colorless
pH	N/A	N/A
Melting Point	-114.5 °C (as Ethanol)	-187.7 °C ~ -134.8 °C
Boiling Point Range	Not available	Not available
Evaporation Rate	Not available	Not available
Autoignition Temperature	439 °C (as Ethanol)	405 °C ~ 550 □
Lower Explosive Limit	Not available	1.8 vol %
Upper Explosive Limit	Not available	9.5 vol %
Vapor Density (air=1)	Not available	1.895~2.538 kg/m3 (1 Mpa, 15.6 □)

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Water Solubility	easily soluble in water	soluble in water
Viscosity	Not available	Not available
Solubility (Other)	Not available	Not available

SECTION 10: Stability and reactivity

10.1 Chemical stability

Hazard of explosion @ 40 °C. Container - pressure at room temperature: approx. 0.43 MPa.

10.2 Reactivity

Reacts with Incompatible materials. Incompatible materials include oxidizing materials. Explosion risk in case of fire. Reacts with plastic, rubber, coating agent.

Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.3 Conditions to be avoided

Avoid heat and humidity. Keep away from heat, sparks, open flame or other ignition sources. Avoid contact with incompatible materials.

Hazardous decomposition products

Irritating and toxic gases or fumes may be released during a fire: carbon monoxide, oxides of nitrogen.

Incompatible materials

Strong acid, strong alkali, oxidizing materials, calcium hypochlorite, silver oxide

SECTION 11: Toxicological information

11.1 General characteristics of exposure

Acute and Chronic Toxicity

See below.

11.2 Routes of exposure

Inhalation

May cause drowsiness or dizziness.

Ingestion

May be fatal if swallowed and enters airways.

Skin

No significant adverse effects expected.

Eye

Causes serious eye irritation.

11.3 Affected organs, tissues and biological systems

Specific Target Organ Toxicity - Single Exposure

nervous system

Specific Target Organ Toxicity - Repeated Exposure

liver, nervous system

11.4 Information about the health risks of exposure by direct contact with the product, as well as the consequences of these risks

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Irritation/Corrosivity Data

Causes serious eye irritation.

Aspiration hazard

Not expected to be an aspiration hazard. May be fatal if swallowed and enters airways.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

11.5 Information about hazardous long-term effects of the product on the body

Mutagenic Data

May cause genetic defects.

Component Carcinogenicity

Ethyl alcohol	64-17-5
IARC:	Monograph 100E [2012] (in alcoholic beverages); Monograph 96 [2010] (in alcoholic beverages) (Group 1 (carcinogenic to humans))
DFG:	Category 5 (low carcinogenic potency)

Toxicity for reproduction

No information available for the product.

11.6 Acute toxicity data

Acute Toxicity Estimate

Inhalation - Vapor	> 20 mg/L
Oral	> 2000 mg/kg

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Butane (106-97-8)

Inhalation LC50 Rat 658 g/m³ 4 h

Ethyl alcohol (64-17-5)

Oral LD50 Rat 7060 mg/kg

Inhalation LC50 Rat 124.7 mg/L 4 h

Propane (74-98-6)

Inhalation LC50 Rat >800000 ppm 15 min

Isobutane (75-28-5)

Inhalation LC50 Rat 658 mg/L 4 h

SECTION 12: Ecological information

12.1 General description of the effects of exposure on the environment

No information available for the product.

12.2 Routes of exposure to the environment

No information available for the product.

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Bioaccumulative potential

No information available for the product.

12.3 The most important characteristics of the environmental impact

12.3.1 Hygienic standards

Component	MAC of atmospheric air or TAEL of atmospheric air, mg/m ³ (LHI, hazard class)	MAC water or Approximate Allowable Levels (AAL) water, mg/l, (LHI, hazard class)	MAC of fishery waters. or TAEL of fishery waters , mg/l (LHI, hazard class)	MAC or AAC (Approximate Allowable Concentration) of soil, mg/kg (LHI)
Butane	200 mg/m ³ MAC Class 4 Present reflexive	--	--	--
Ethyl alcohol	200 mg/m ³ MAC Class 4 Present reflexive 5 mg/m ³ MAC Class 4 Present reflexive	--	0.01 mg/dm ³ MAC Class 3 Present sanitary-toxicological	--
Propane	--	--	--	--
Isobutane	200 mg/m ³ MAC Class 4 Present reflexive 5 mg/m ³ MAC Class 4 Present reflexive 15 mg/m ³ MAC Class 4 Present reflexive	--	--	--
Non hazardous	--	--	--	--

12.3.2 Ecotoxicity data

Component Analysis - Aquatic Toxicity

Ethyl alcohol	64-17-5
Fish:	LC50 96 h Oncorhynchus mykiss 12 - 16 mL/L [static]; LC50 96 h Pimephales promelas >100 mg/L [static]; LC50 96 h Pimephales promelas 13400 - 15100 mg/L [flow-through]
Invertebrate:	LC50 48 h Daphnia magna 9268 - 14221 mg/L IUCLID ; EC50 48 h Daphnia magna 2 mg/L [Static] EPA

12.3.3 Migration and transformation in the environment due to biodegradation and other processes

Mobility in soil

No information available for the product.

Other Ecological Information

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No additional information available for the product.

SECTION 13: Disposal considerations

13.1 Safety measures when handling waste arising from use, storage, transportation

Dispose in accordance with all applicable regulations.

13.2 Information about the places and methods of decontamination, recycling or disposal of waste products, including packaging

Dispose in accordance with all applicable regulations including the disposal methods of contaminated container and packaging.

13.3 Recommendations regarding removal of waste generated when using products in everyday life

Recycle if possible.

SECTION 14: Transport information

		ADR	RID	ICAO	IATA	ADN	IMDG
14.1	UN Number	UN1950	UN1950	UN1950	UN1950	UN1950	UN1950
14.2	UN Proper Shipping Name	AEROSOLS	AEROSOLS	Forbidden	Forbidden	AEROSOLS	AEROSOLS
14.3	Appropriate Transport Vehicles	Transported in accordance with the shipping rules applicable to the given mode of transport.	Transported in accordance with the shipping rules applicable to the given mode of transport.	--	--	Transported in accordance with the shipping rules applicable to the given mode of transport.	Transported in accordance with the shipping rules applicable to the given mode of transport.
14.4	Transport Hazard Class(es)	2.1	2.1	--	--	2.1	2
14.5	Classification of dangerous goods according to the UN Recommendations on the Transport of Dangerous Goods	Not classified as dangerous good.	Not classified as dangerous good.	--	--	Not classified as dangerous good.	Not classified as dangerous good.
14.6	Transport labeling	None	None	--	--	None	None
14.7	Emergency cards	--	--	--	--	--	--

International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

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SECTION 15: Information on National and International Legislation

15.1 National legislation

15.1.1 Laws of the Russian Federation

Limiting Quantities of Hazardous Substances

None of this product's components are on the list.

15.1.2 Information about the documents regulating the requirements for protection of humans and the environment

Maximum Allowable Concentrations of Pollutants in Air

Butane	106-97-8
Class 4 - Low Dangerous Substances:	Present
Limiting Nuisance Values:	reflexive
Maximum Values:	200 mg/m ³ MAC
Ethyl alcohol	64-17-5
Class 4 - Low Dangerous Substances:	Present
Limiting Nuisance Values:	reflexive
Maximum Values:	5 mg/m ³ MAC
Isobutane	75-28-5
Class 4 - Low Dangerous Substances:	Present
Limiting Nuisance Values:	reflexive
Maximum Values:	15 mg/m ³ MAC

Tentative Safe Exposure Levels (TSELs) of Harmful Substances

The Russian Ministry of Health has not developed tentative safe exposure levels for any of this product's components.

Tentative Allowable Exposure Levels (TAEL)

The Russian Ministry of Health has not developed tentative allowable exposure levels for any of this product's components.

Maximum Allowable Concentrations of Chemicals in Soil

The Russian Ministry of Health has not developed maximum allowable concentrations for any of this product's components.

Approximate Allowable Concentrations (AAC) of Chemical Substances in Soil

The Russian Ministry of Health has not developed approximate allowable concentrations for any of this product's components.

15.2 International conventions and agreements

Montreal Protocol

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No components of this material are listed.

Stockholm Convention

No components of this material are listed.

Component Analysis - Inventory

Butane (106-97-8)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Ethyl alcohol (64-17-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Propane (74-98-6)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Isobutane (75-28-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Non hazardous (N/A)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

SECTION 16: Other information

16.1 Safety Passport Revision Information

New SDS: 5 July 2018

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Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne - Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada)

16.2 List of sources used for Safety Passport compilation

Available upon request.

Relevant H- and EUH-phrases (Number and full text)

H220 Extremely flammable gas

H225 Highly flammable liquid and vapor

H280 Contains gas under pressure, may explode when heated

NOTE C: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

NOTE U: When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

Further Information

Disclaimer:

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.