SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	:	Aldehyde･Ketone-DNPH Solution ERA-028
NAME OF SPPLIYER	:	GL Sciences Inc.
ADDRESS	:	22-1 Nishishinjuku 6-chome Shinjuku-ku Tokyo 163-1130, Japan
CHARGE SECTION	:	International Sales Section
TELEPHONE No.	:	+81-3-5323-6620
FACSIMILE No.	:	+81-3-5323-6621
PRODUCT No.	:	1021-51163
SDS No.	:	1021-51163

Research use only.

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION :

Flammable liquid	:	Category 2
Acute toxicity (dermal)	:	Category 3
Acute toxicity (inhalation : vapor)	:	Category 4
Serious eye damage/eye irritation	:	Category 2A
Specific target organ toxicity(Single exposure)	:	Category 1 ＜central nervous system, respiratory organs＞
Specific target organ toxicity(Repeated exposure)	:	Category 2 ＜central nervous system, blood system, respiratory organs, liver, kidneys＞

LABEL ELEMENTS

HAZARD SYMBOL :

SIGNAL WORD : Danger

HAZARD STATEMENTS :

H225	Highly flammable liquid and vapor
H311	Toxic in contact with skin
H332	Harmful if inhaled
H319	Cause serious eye irritation
H370	Causes damage to organs ＜central nervous system, respiratory organs＞
H373	May cause damage to organs through prolonged or repeated exposure ＜central nervous system, blood system, respiratory organs, liver, kidney＞

PRECAUTIONARY STATEMENTS :

[Prevention]

P210	Keep away from heat/sparks/open flames/hot surfaces. –No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.

[Response]

P303+P361+ P353	IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water/shower.
P310	Immediately call a POISON CENTER or doctor.
P304+P340	IF INHALED: Remove person to fresh air and keep 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.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor/....
P314	Get medical attention if you feel unwell.
P337+P313	If eye irritation persists: Get medical attention.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use appropriate media such as chemical powder or carbon dioxide to extinguish.
[Storage]	
P403 +P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
[Disposal]	
P501	Dispose of contents/container in accordance with all applicable regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL/MIXTURE : Mixture

CHEMICAL NAME	CONTENT	CHEMICAL FORMULA	CAS RN	TSCA INVENTRY	EINECS No.
Acetonitrile	> 99 %	CH_3CN	75-05-8	Listed	200-835-2
Acetaldehyde-DNPH	0.00763%	$C_8H_8N_4O_4$	1019-57-4	Not listed	Not listed
Acetone-DNPH	0.00615%	$C_9H_{10}N_4O_4$	1567-89-1	Not listed	Not listed
Acrolein-DNPH	0.00632%	$C_9H_8N_4O_4$	888-54-0	Not listed	Not listed
Benzaldehyde-DNPH	0.00405%	$C_{13}H_{10}N_4O_4$	1157-84-2	Not listed	Not listed
2-Butanone(MEK)-DNPH	0.00525%	$C_{10}H_{12}N_4O_4$	958-60-1	Not listed	Not listed
n-Butyraldehyde-DNPH	0.00525%	$C_{10}H_{12}N_4O_4$	1527-98-6	Not listed	Not listed
Crotonaldehyde-DNPH	0.00536%	$C_{10}H_{10}N_4O_4$	1527-96-4	Not listed	Not listed
Methacrolein-DNPH	0.00535%	$C_{10}H_{10}N_4O_4$	5077-73-6	Not listed	Not listed
Formaldehyde-DNPH	0.01050%	$C_7H_6N_4O_4$	1081-15-8	Not listed	Not listed
Hexaldehyde-DNPH	0.00420%	$C_{12}H_{16}N_4O_4$	1527-97-5	Not listed	Not listed
Propionaldehyde-DNPH	0.00615%	$C_9H_{10}N_4O_4$	725-00-8	Not listed	Not listed
m-Tolualdehyde-DNPH	0.00375%	$C_{14}H_{12}N_4O_4$	2880-05-9	Not listed	Not listed
Valeraldehyde-DNPH	0.00464%	$C_{11}H_{14}N_4O_4$	2057-84-3	Not listed	Not listed

4. FIRST AID MEASURES

GENERAL ADVICE : Consult a physician. Show this safety data sheet to the doctor in attendance.

INHALATION : Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.

SKIN CONTACT : Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. Consult a physician immediately.

EYE CONTACT : Flush eyes well with flooding large amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If possible, remove any contact lenses. Consult a physician immediately.

INGESTION : Rinse mouth, give plenty of water to dilute the substance. Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician immediately.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA : Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

FIRE & EXPLOSION HAZARDS : Toxic, irritating, dust/fume/smoke may be emitted. Carbon monoxide may be foamed.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS

: Firemen should wear normal protective equipment(full bunker gear) and positive-pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid raising dust and avoid contact with skin and eyes.

ENVIRONMENTAL PRECAUTIONS : Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

METHODS FOR CLEAN UP : Do not touch spilled material without suitable protection. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

HANDLING : Keep away from ignition sources and ventilate the area －No smoking. In case of insufficient ventilation, wear suitable respiratory equipment.

Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapour or mist. Avoid prolonged or repeated exposure. Handle this product with suitable protection.

STORAGE : Store away from sunlight, heat and all ignition sources in well-ventilated dry place. Keep container tightly closed. Keep cool(2 ~ 10℃).

INCOMPATIBLE PRODUCTS : Strong oxidizers, acids

8. EXPOSURE CONTROL/PERSONAL PROTECTION

ENGINEERING MEASURES : Use exhaust ventilation to keep airborne concentrations below exposure limits.

Use adequate ventilation.

VENTILATION : Local Exhaust ; Necessary, Mechanical(General) ; Necessary

CONTROL PARAMETERS

CHEMICAL NAME	ACGIH	OSHA Final Limits	NIOSH REL
Acetonitrile	TWA= 20 ppm	TWA= 40 ppm	TWA= 20 ppm
Other Components	None		

PERSONAL PROTECTION

Respiratory protection : Use respirators approved under appropriate government standards and follow all regulations.

HAND PROTECTION : Chemical resistant gloves

EYE PROTECTION : Safety glasses(goggles)

SKIN PROTECTION : Protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : Liquid

PHYSICAL STATE : Colorless, Clear

ODOR : Characteristic odor

pH : No data available

BOILING POINT : 81 - 82 °C (at 1.013 hPa(0.760mmHg))

MELTING POINT : No data available

FLASH POINT : 2 °C (closed cup)

EXPLOSIVE LIMITS : 4.4% (lower), 16.0 % (upper)

VAPOR PRESSURE : No data available

VAPOR DENSITY : No data available

RELATIVE DENSITY : 0.782 g/cm^3 (at 20°C)

SOLUBILITY IN

Water, Organic solvent : No data available

PARTITION COEFFICIENT ; n-octanol/water

: No data available

AUTOIGNITION TEMPERATURE : No data available

DECOMPOSITION TEMPERATURE

: No data available

10. STABILITY AND REACTIVITY

REACTIVITY : Stable under recommended storage conditions.

CHEMICAL STABILITY : Reacts with strong oxidizers.

CONDITION TO AVOID : Sunlight, heat, open flames, high temperature, sparks, static electrical charge, other ignition sources, moisture

INCOMPATIBLE MATERIALS : Oxidizers and strong acids

HAZARDOUS DECOMPOSITION PRODUCTS

: CO, CO_2 may be formed.

11. TOXICOLOGICAL INFORMATION

We show the toxicological information of Acetonitrile below.

ACUTE TOXICITY (Oral) : There are ten reports of LD50 values for rats of 1,315 mg/kg (male), 1,730 mg/kg (female), 2,230 mg/kg (female), 2,460 mg/kg (male), 3,053 mg/kg (male), 3,200 mg/kg, 3,445 mg/kg (male), 3,800 mg/kg, 4,050 mg/kg (female), and 6,702 mg/kg (female) (EHC 154 (1993)). Two cases correspond to Category 4, and eight cases correspond to "Not classified" (seven cases of these correspond to Category 5 in UN GHS classification). It was classified as "Not classified" by adopting the category with the larger number of cases. The category was changed from the previous classification according to the GHS classification guidance for the Japanese government.

ACUTE TOXICITY (Dermal) : There are three reports of LD50 values for rabbits of 395 mg/kg (male) (75% aqueous solution), 978.8 mg/kg (male) (undiluted solution) (EHC 154 (1993), EU-RAR (2002), Initial Risk Assessment Report (NITE, CERI, NEDO, 2007)), and 3,915 mg/kg (undiluted solution) (EHC 154 (1993), EU-RAR (2002), PATTY (6th, 2012)). Two cases correspond to Category 3, and one case corresponds to "Not classified" (Category 5 in UN GHS classification). It was classified in Category 3 by adopting the category with the larger number of cases.

ACUTE TOXICITY (Inhalation: Vapors)

: Based on an LC50 value for rats of 16,000 ppm (female and male) in a 4-hour inhalation exposure test (EHC 154 (1993), EU-RAR (2002), Initial Risk Assessment Report (NITE, CERI, NEDO, 2007), PATTY (6th, 2012)) and LC50 values for rats of 7,551 ppm (male) (converted 4-hour equivalent value: 10,679 ppm) and 12,435 ppm (female) (converted 4-hour equivalent value: 17,586 ppm) (EHC 154 (1993), EU-RAR (2002), Initial Risk Assessment Report (NITE, CERI, NEDO, 2007)) in an 8-hour inhalation exposure test, it was classified in Category 4. The category was changed from the previous classification. Besides, since the LC50 values were lower than 90% of the saturated vapor pressure concentration (98,020 ppm), a reference value in the unit of ppm was applied as vapour with little mist.

ACUTE TOXICITY (Inhalation: Dusts and mists)

: Classification not possible due to lack of data.

SKIN CORROSION/IRRITATION : Based on reports that this substance was not irritating or showed slight irritation in multiple skin irritation tests with rabbits (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007), EU-RAR (2002)), it was classified as "Not classified" (Category 3 in UN GHS classification).

EYE DAMAGE/EYE IRRITATION : Based on reports that eye irritation of this substance was moderate or severe in eye irritation tests with rabbits (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007), EU-RAR (2002)), it was classified in Category 2. Besides, this substance was classified as "Eye Irrit. 2" in EU CLP classification (ECHA CL Inventory (Access on June 2017)).

RESPIRATORY SENSITIZATION : Classification not possible due to lack of data.

SKIN SENSITIZATION : There is a description that it was negative in a skin sensitization test with guinea pigs (EU-RAR (2002)). However, since this was the result from only one test, it was classified as "Classification not possible."

GERM CELL MUTAGENICITY : As for in vivo, a micronucleus test with peripheral blood of mice exposed by inhalation was positive, micronucleus tests with bone marrow cells and peripheral blood of mice given intraperitoneal administration were negative, and an unscheduled DNA synthesis test with hepatocytes of rats was negative (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007), ACGIH (7th, 2002), DFGOT Vol.19 (1993), EU-RAR (2002), IRIS Tox. Review (1999), EHC 154 (1993), NTP TR447 (1996), Environmental Risk Assessment for Chemical Substances Vol.3 (Ministry of the Environment, 2004)).

As for in vitro, bacterial reverse mutation tests were negative, a gene mutation test, a mouse lymphoma test and a chromosomal aberration test with mammalian cultured cells were negative, and a sister chromatid exchange test was weakly positive (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007), ACGIH (7th, 2002), DFGOT Vol.19 (1993), EU-RAR (2002), IRIS Tox. Review (1999), EHC 154 (1993), NTP TR447 (1996), Environmental Risk Assessment for Chemical Substances Vol.3 (Ministry of the Environment, 2004)). From the above, since on top of the fact that there are defects and an unclear dose response in both of the two micronucleus tests reported as positive in the in vivo tests (the test with bone marrow cells of mice given intraperitoneal administration, the test with erythrocytes of mice exposed by inhalation), the micronucleus tests performed according to OECD TG (tests with bone marrow cells and peripheral blood of mice given intraperitoneal administration) were negative, it is described in the EU-RAR that it is not possible to clearly judge the presence or absence of genotoxicity as a comprehensive genotoxicity evaluation. Therefore, it was classified as "Classification not possible" since there is no clear positive finding in micronucleus tests. Since the positive result in the micronucleus test described in the previous classification was unclear, the category was reviewed.

CARCINOGENICITY : In carcinogenicity studies with rats and mice exposed by inhalation for two years, a marginal increase in the incidence of hepatocellular adenomas and carcinomas (combined) was observed at the high dose in male rats, but no increase in the incidence of neoplastic lesions was observed in female rats and female and male mice (NTP TR447 (1996)). It is concluded in NTP that there was equivocal evidence of carcinogenicity in male rats, and there was no evidence of carcinogenicity in female rats and female and male mice (NTP TR447 (1996)). As for classifications by other organizations, ACGIH classified it in A4 (ACGIH (7th, 2002)) and EPA as CBD (cannot be determined) (IRIS (1999)). From the above, it was classified as "Classification not possible."

REPRODUCTIVE TOXICITY : In developmental toxicity tests with pregnant rats or pregnant rabbits orally dosed, no severe developmental effect was observed in fetuses even at the highest dose (275 mg/kg/day in rats, 30 mg/kg/day in rabbits) where deaths, suppressed body weight gain, and increased resorptions were observed in maternal animals (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007), ACGIH (7th, 2002), Environmental Risk Assessment for Chemical Substances Vol.3 (Ministry of the Environment, 2004)). In addition, even in two developmental toxicity tests with pregnant rats exposed by inhalation, no effect was observed in fetuses at doses where deaths were observed in maternal animals (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007), ACGIH (7th, 2002)). Besides, in a single inhalation test with pregnant hamsters exposed on gestational day 8, teratogenesis such as exencephaly, encephalocele, and fusion of the ribs were reported at or above the concentration twice as high as the concentrations where deaths occurred in maternal animals (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007), ACGIH (7th, 2002), Environmental Risk Assessment for Chemical Substances Vol.3 (Ministry of the Environment, 2004)). From the above, it is considered that from the results of experimental animals, it is unlikely that the substance shows developmental effects in experimental animals by the oral and inhalation route, but there is no information on fertility and sexual function, therefore, classification was not possible due to lack of data.

SPECIFIC TARGET ORGAN TOXICITY

Single exposure : As for humans, multiple cases are reported including cases of ingestion of this substance by accident or in a suicide attempt and acute inhalation exposure cases due to accidents in plants. There is a description that acute effects were fatigue, nausea, vomiting, confusion, convulsions, coma, etc., resulting in death in the severe cases (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007)). In addition, there is a report of irritation of the nose and throat by inhalation exposure (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007)). As for experimental animals, there is a report that in a single oral dose test with mice, hypoactivity, tremors, weakness, decreased righting reflex, labored breathing, convulsions, gasping, and salivation were observed at 300-2,000 mg/kg/day within the range of Category 2 (EU-RAR (2002), Initial Risk Assessment Report (NITE, CERI, NEDO, 2007)). In addition, there are reports that hypoactivity, abnormal gait, loss of righting reflex, bradypnea, labored breathing, rapid respiration, gasping, hypothermia, hindlimb extension, lateral position, and yellowing of coat were observed at 3,039-5,000 ppm within the range of Category 2 in a 4-hour single inhalation exposure test with

mice (EU-RAR (2002), Initial Risk Assessment Report (NITE, CERI, NEDO, 2007)), and that severe dyspnea, gasping, tremors and convulsions were observed at 500-5,000 ppm (converted 4-hour equivalent value: 250-2,500 ppm, corresponding to within the range of Category 2) in a one-hour single inhalation exposure test with mice (EHC 154 (1993), EU-RAR (2002), Initial Risk Assessment Report (NITE, CERI, NEDO, 2007)). Moreover, there is a report that pulmonary hemorrhage and congestion were observed in both surviving cases and death cases in an 8-hour single inhalation exposure test with rats (EU-RAR (2002), Initial Risk Assessment Report (NITE, CERI, NEDO, 2007)). Although there was no detailed description of doses in this study, LC50 values (converted 4-hour equivalent value) were reported to be 10,678 ppm (male) and 17,585 ppm (female), and it is considered that effects were observed at doses within the range of Category 2. From the above information, it is considered that this substance affects the central nervous system and respiratory organs. Therefore, it was classified in Category 1 (central nervous system, respiratory organs).

SPECIFIC TARGET ORGAN TOXICITY

Repeated exposure : No information on humans is available.

As for experimental animals, in a 13-week inhalation toxicity test (6 hours/day, 5 days/week) with rats exposed to the vapour, at or above 800 ppm (1,340 mg/m3 (converted guidance value: 0.97 mg/L)) within the guidance value range for Category 2, deaths, hypoactivity, rough fur, decreased thymus weight, anemia symptoms (decreases in erythrocyte count, hemoglobin concentration and hematocrit value) were found, and in death cases, pulmonary congestion and edema, hemorrhage in the pulmonary alveoli and brain, decreased bone marrow cells, thymic atrophy, decreased lymphocytes in the spleen, and decreased corpora lutea in the ovary were observed (Initial Risk Assessment Report (NITE, CERI, NEDO 2007), Environmental Risk Assessment for Chemical Substances Vol.3 (Ministry of the Environment, 2004), NTP TR447 (1996)), and in a 90-day inhalation toxicity test (7 hours/day, 5 days/week) with rats exposed to the vapour, atelectasis and histiocyte clumps in the alveoli at or above 166 ppm (279 mg/m3 (converted guidance value: 0.33 mg/L)) within the guidance value range for Category 2, and bronchitis and pneumonia at or above 330 ppm (554 mg/m3 (converted guidance value: 0.65 mg/L)) were observed (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007), EU-RAR (2002)). In addition, in a 13-week inhalation toxicity test (6 hours/day, 5 days/week) with mice exposed to the vapour, increased liver weight at or above 100 ppm (168 mg/m3) (converted guidance value: 0.12 mg/L) within the guidance value range for Category 1, focal ulceration with epithelial hyperplasia of the forestomach at or above 200 ppm (335 mg/m3) (converted guidance value: 0.24 mg/L) within the guidance value range for Category 2, deaths and hepatocellular vacuolation at 400 ppm (670 mg/m3) (converted guidance value: 0.48 mg/L), and hypoactivity, hunched position, and muscle stiffness at 800 ppm (1,340 mg/m3) (converted guidance value: 0.97 mg/L) were observed (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007), NTP TR447 (1996)). In a 92-day inhalation toxicity test (6.5 hours/day, 5 days/week) with mice exposed to the vapour, increased liver weight at or above 100 ppm (168 mg/m3) (converted guidance value: 0.18 mg/L) within the guidance value range for Category 1, and deaths, decreases in erythrocyte count and hematocrit value, and hepatocellular vacuolation at or above 200 ppm (335 mg/m3) (converted guidance value: 0.36 mg/L) within the guidance value range for Category 2 were observed (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007)).

Other than these, in a 91-day inhalation toxicity test (7 hours/day, 5 days/week) with monkeys exposed to the vapour, bleeding of the superior or inferior sagittal sinus in the brain, caseous tubercle of the lung, discoloration of the liver, focal emphysema, diffuse hyperplasia of the alveolar epithelium, acute bronchitis, focal macrophage pigmentation, and cloudy swelling of the kidney proximal tubules were observed at 350 ppm (588 mg/m3) (converted guidance value: 0.69 mg/L) within the guidance value range for Category 2 (Initial Risk Assessment Report (NITE, CERI, NEDO, 2007)).

From the above, it was classified in Category 2 (haemal system, central nervous system, respiratory organs, liver, kidney). Besides, since the findings in the forestomach were considered to be due to irritation, they were not adopted as evidence for the classification.

ASPIRATION TOXICITY : Classification not possible due to lack of data. Besides, the kinematic viscosity is calculated to be 0.444 mm2/sec (20 deg C) from the numerical data (Viscosity: 0.35 mPa*s (20 deg C), density (specific gravity): 0.78745) listed on HSDB (Access on June 2017).

12. ECOLOGICAL INFORMATION

We show the Ecological information of Acetonitrile below.

Hazardous to the aquatic environment

(Acute) : From 72-hour EC50 (rate method) >700 mg/L for algae (Pseudokirchneriella subcapitata), 96-hour LC50 >100 mg/L for fish (Oryzias latipes) (both Results of Aquatic Toxicity Tests of Chemicals conducted by Ministry of the Environment in Japan (Ministry of the Environment, 2017)), and 96-hour LC50 >100 mg/L for crustacea (Daphnia magna) (Environmental Risk Assessment for Chemical Substances vol. 3 (Ministry of the Environment, 2004)), it was classified as "Not classified."

Hazardous to the aquatic environment

(Long-term) : Due to being rapidly degradable (readily biodegradable, average degradation rate by BOD: 65% (J-CHECK, 1998)), no bioaccumulation (LogPow: -0.34 (PHYSPROP Database: 2017)), 21-day NOEC (reproduction inhibition) = 960 mg/L for crustacea (Daphnia magna) (Environmental Risk Assessment for Chemical Substances vol. 3 (Ministry of the Environment, 2004)), and 72-hour NOEC (rate method) = 700 mg/L for algae (Pseudokirchneriella subcapitata) (Results of Aquatic Toxicity Tests of Chemicals conducted by Ministry of the Environment in Japan (Ministry of the Environment, 2017)), it was classified as "Not classified."

Hazardous to the ozone layer : This substance is not listed in Annexes to the Montreal Protocol.

13. DISPOSAL INFORMATION

Dispose in a hazardous-waste site in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environment agency for specific rules).

14. TRANSPORT INFORMATION

IATA

UN NUMBER : 1648

UN PROPER SHIPPING NAME : Acetonitrile

CLASS : 3 (flammable liquid)

PACKING GROUP : II

ADR/RID : 1648, Acetonitrile

DOT(Department of Transportation) : 1648, Acetonitrile

MARINE POLLUTANT : Not classified

15. REGULATORY INFORMATION

For classification and labeling of chemicals in accordance with the applicable rules and regulations in the EU or each country, refer to GHS classification of this product (See Section 2).

US REGULATION : OSHA HCS 2012/29 CFR 1910.1200

EU REGULATION : CLP Regulation ((EC) No. 1272/2008)

16. OTHER INFORMATION

NOTICE:

The information contained in the SDS description is applicable exclusively to the chemical substance identified herein and for its intended use as an analytical reference standard or reagent and to the unit quantity intended for that purpose. The information does not relate to, and may not be appropriate for, any application or larger quantity of the substance described. Our products are intended for the use by individuals possessing sufficient technical skill and qualification on use the material potential hazardous chemical. Accordingly, no representation or warranty, express or implied, with respect to merchantability and fitness for a particular purpose is made with respect to the information contained herein.

Attention:

This product in terms of chemical identity and the unit amount provide is intended for use in chemical analysis and not for human consumption, nor any other purpose.