Safety Data Sheet

Authoring date 15-Dec-2014
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Code @RCTEST002
Product name Acrylonitrile

UN/ID no UN1093

Recommended Use Polymer material(Monomer)

Manufacturer
DIC Corporation Tokyo Plant, 35-58, Sakashita 3-chome, Itabashi-ku, Tokyo 174-8520, Japan
TEL:+81-3-5392-2257
FAX:+81-3-5392-2289

Supplier / Importer
DIC (Malaysia) Sdn. Bhd.
Plot 501 & 502, Persiaran Sabak Bernam, Section 26, Kawasan Hicom, 40400 Shah Alam, Selangor Darul Ehsan, Malaysia
TEL: 03-5191-0033 FAX: 03-5191-7233 Emergency TEL: 03-5191-0033

2. HAZARDS IDENTIFICATION

GHS - Classification

Flammable Liquids	Category 2 - (H225)
Acute toxicity - Oral	Category 3 - (H301)
Acute toxicity - Dermal	Category 3 - (H311)
Acute toxicity - Inhalation (Dusts/Mists)	Category 3 - (H331)
skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
carcinogenicity	Category 1B - (H350)
Specific target organ toxicity (single exposure)	Category 3 - (H335)
Chronic aquatic toxicity	Category 2 - (H411)

Hazard symbols
F - Highly flammable
T - Toxic
N - Dangerous for the environment

R-code(s)
F;R11 - Carc. cat. 2;R45 - T;R23/24/25 - Xi;R37/38 - Xi;R41 - R43 - N;R51/53

Label elements

SIGNAL WORD
Danger

Hazard statements
H225 - Highly flammable liquid and vapor
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H331 - Toxic if inhaled
H335 - May cause respiratory irritation
H350 - May cause cancer
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements
P201 - Obtain special instructions before use
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P280 - Wear eye protection/ face protection
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P281 - Use personal protective equipment as required
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove victim 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
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER or doctor/physician
P370 + P378 - In case of fire: Use dry sodium carbonate to extinguish
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Other hazards

Hazards not otherwise classified (HNOC)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical identity No information available
Pure substance/mixture substance

chemical name	CAS No	EC No	weight-%
Acrylonitrile 107-13-1	107-13-1	203-466-5	99<

4. FIRST AID MEASURES

first aid measures

General advice	Call a physician or poison control center immediately Remove and isolate contaminated clothing and shoes
INHALATION	Move victim to fresh air If breathing is irregular or stopped, administer artificial respiration Administer oxygen if breathing is difficult. Oxygen should be administered by qualified personnel.
Skin Contact	Wash skin thoroughly with soap and water. Seek medical attention if irritation or redness develops and persist.
Eye Contact	In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Seek medical attention if irritation or redness develops and persist.
Ingestion	Do NOT induce vomiting Drink plenty of water Never give anything by mouth to an unconscious person Call a physician or poison control center immediately Clean mouth with water and drink afterwards plenty of water Call a physician

Most important symptoms and effects, both acute and delayed

Symptoms	None known.

Indication of any immediate medical attention and special treatment needed

Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device
Note to physicians	Keep victim warm and quiet Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable extinguishing media	Dry chemical, CO2, water spray or alcohol-resistant foam Water spray, fog or alcohol-resistant foam Move containers from fire area if you can do it without risk Dike fire control water for later disposal; do not scatter the material Use water spray or fog; do not use straight streams
Unsuitable extinguishing media	CAUTION: All these products have a very low flash point. Use of water spray when fighting fire may be inefficient

Specific hazards arising from the chemical

Vapors may form explosive mixtures with air Vapors may travel to source of ignition and flash back Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks) Vapor explosion hazard indoors, outdoors or in sewers Those substances designated with a "P" may polymerize explosively when heated or involved in a fire Runoff to sewer may create fire or explosion hazard

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) All equipment used when handling the product must be grounded Do not touch or walk through spilled material Stop leak if you can do it without risk

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas

Methods and material for containment and cleaning up

Methods for containment A vapor suppressing foam may be used to reduce vapors Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal

Methods for cleaning up Use clean non-sparking tools to collect absorbed material Dike far ahead of liquid spill for later disposal

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity) Take precautionary measures against static discharges Use spark-proof tools and explosion-proof equipment All equipment used when handling the product must be grounded Use with local exhaust ventilation Use personal protective equipment as required Do not breathe dust/fume/gas/mist/vapors/spray

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place Keep in properly labeled containers Keep containers tightly closed in a cool, well-ventilated place Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity)

Prevents Handling of Incompatible Substances or Mixtures No information available

8. exposure controls/personal protection

Control parameters

chemical name	Malaysia	Japan
Acrylonitrile 107-13-1	TWA: 2 ppm TWA: 4.3 mg/m^3 Skin	TWA: 2 ppm TWA: 4.3 mg/m^3 Skin ISHL/ACL: 2 ppm

chemical name	ACGIH	OSHA PEL	NIOSH IDLH
Acrylonitrile 107-13-1	TWA: 2 ppm S*	TWA: 5 mg/m^3 CN (vacated) TWA: 5 mg/m^3 Ceiling: 10 ppm S*	IDLH: 25 mg/m^3 CN Ceiling: 10 ppm 15 min TWA: 1 ppm

Engineering controls

Ensure adequate ventilation, especially in confined areas

Personal protective equipment (PPE)

Hand protection	Gloves made of plastic or rubber
Eye/face protection	Tight sealing safety goggles Face protection shield
Skin and body protection	Gloves made of plastic or rubber Antistatic footwear Wear fire/flame resistant/retardant clothing Suitable protective clothing Apron

9. Physical and Chemical Properties

Physical state	
Physical state	Liquid
Appearance	No data available
color	Colorless
Odor	Strong
Odor Threshold	No data available
pH	
Melting point / melting range	-119 °F / -84 °C
Boiling point/boiling range	171 °F / 77 °C
flash point	30 °F / -1 °C
Method	Tag Closed Cup
evaporation rate	No data available
Flammability (solid, gas)	No data available
explosive limits	
Explosive upper limit	
Explosive lower limit	
Vapor pressure @20°C (kPa)	11.0
vapor density	1.8 (Air:1)
density	No data available
Partition coefficient	No data available
Solubility(ies)	No data available
Autoignition Temperature	898 °F / 481 °C
Decomposition temperature	No data available
Dynamic viscosity	No data available

10. Stability and Reactivity

Reactivity

Stability

Stable under normal conditions

Possibility of hazardous reactions

None under normal processing

Conditions to avoid

Heat, flames and sparks

Incompatible materials

Hazardous decomposition products

None under normal use conditions

11. Toxicological Information

Information on likely routes of exposure

INHALATION	No data available
Eye Contact	No data available
Skin Contact	No data available
Ingestion	May be harmful if swallowed May cause additional affects as listed under "Inhalation" Ingestion may cause irritation to mucous membranes

Information on toxicological effects

acute toxicity

chemical name	Oral LD50	dermal LD50	Inhalation LC50
Acrylonitrile	= 78 mg/kg (Rat)	= 63 mg/kg (Rabbit)	= 0.47 mg/L (Rat) 4 h = 333 ppm (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
sensitization	No data available
germ cell mutagenicity	No data available
carcinogenicity	No data available

chemical name	IARC
Acrylonitrile	Group 2B

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans.

Reproductive Toxicity	No data available
STOT - single exposure	No data available
STOT - repeated exposure	No data available
chronic toxicity	Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure May cause adverse liver effects
aspiration hazard	No data available

Numerical measures of toxicity

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	100.00 mg/kg
ATEmix (dermal)	300.00 mg/kg
ATEmix (inhalation-dust/mist)	0.50 mg/l

12. Ecological Information

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment

chemical name	Algae/aquatic plants	Fish	Crustacea	Terrestrial organism

Acrylonitrile		*6.7 - 15: 96 h Pimephales promelas mg/L LC50 flow-through 8.0 - 12.0: 96 h Lepomis macrochirus mg/L LC50 static 33.5: 96 h Poecilia reticulata mg/L LC50 static 25: 96 h Brachydanio rerio mg/L LC50 flow-through 24: 96 h Oncorhynchus mykiss mg/L LC50 18.07: 96 h Cyprinus carpio mg/L LC50 semi-static 8.7 - 10: 96 h Lepomis macrochirus mg/L LC50 flow-through 28 - 39: 96 h Pimephales promelas mg/L LC50 static*	*7.38: 48 h Daphnia magna mg/L EC50*	

Persistence and degradability
No data available

Bioaccumulation
No data available

Mobility
No data available

Other adverse effects
No data available

13. Disposal Considerations

Waste from Residues / Unused Products Disposal should be in accordance with applicable regional, national and local laws and regulations Destroy by fire. This product can be recycled.

14. Transport Information

IMDG

Proper shipping name	ACRYLONITRILE, STABILIZED
Hazard Class	3
Subsidiary hazard class	6.1
UN/ID no	UN1093
Packing group	I
EmS-No	F-E, S-D
Special Provisions	none
Marine pollutant	Not Applicable
Environmental hazard	Not Applicable
Description	UN1093 ACRYLONITRILE, STABILIZED , 3 (6.1), I, (0°C c.c.)

RID

UN/ID no	UN1093
Proper shipping name	ACRYLONITRILE, STABILIZED
Hazard Class	3
Labels	6.1

Packing group	I
Environmental hazard	Not Applicable
Classification code	FT1
Special Provisions	none
Description	UN1093 ACRYLONITRILE, STABILIZED , 3 (6.1), I

ADR

UN/ID no	UN1093
Proper shipping name	ACRYLONITRILE, STABILIZED
Hazard Class	3
Labels	6.1
Packing group	I
Environmental hazard	Not Applicable
Special Provisions	none
Classification code	FT1
Tunnel restriction code	(C/E)
Description	UN1093 ACRYLONITRILE, STABILIZED , 3 (6.1), I, (C/E)

IATA

UN/ID no	UN1093
Proper shipping name	ACRYLONITRILE, STABILIZED
Hazard Class	3
Subsidiary hazard class	6.1
Packing group	I
ERG Code	3P
Special Provisions	none
Description	UN1093 ACRYLONITRILE, STABILIZED , 3 (6.1), I

15. regulatory information

National regulations

Factories and Machinery Act	Applicable
Occupational Safety and Health Act	Not Applicable
Poison Act	Not Applicable
Food Act	Not Applicable
Environment Quality Act	Not Applicable
Environmentally Hazardous Substances(EHS) Notification and Registration	Applicable

International Inventories

All of the components in the product are on the following Inventory lists	TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL): China (IECSC) ENCS (Japan): Philippines (PICCS) This product contains a substance not listed on international inventories - it is for research and development use only
TSCA	All ingredients of this product are registered on TSCA inventory.
DSL	Complies
EINECS/ELINCS	Complies
PICCS	Complies
ENCS	Complies
IECSC	Complies
AICS	Complies
KECL	Complies

Legend

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - *Korean Existing and Evaluated Chemical Substances*

16. other information

Authoring date 15-Dec-2014

Revision Note
Reference
LOLI Database (ChemADVISOR,Inc.)

The reference on GHS classification results
EU CLP(1272/2008)Annex VI Table 3.1

Other information