SAFETY DATA SHEET

1. Identification

GHS product identifier	**LUMIFLON LF924N**
SDS number	AGC-0294
Version No.	01
Issue date	17-December-2020
CAS #	Mixture
Recommended use	Raw material for industry
Recommended Restrictions	Not available.

Manufacturer

Company name	AGC Inc. Chemicals Company Coating Business Group
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2. Hazards identification

GHS classification

Physical hazards	Flammable liquids	Category 3
	Pyrophoric liquids	Not classified
Health hazards	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 1B
	Specific target organ toxicity following single exposure	Category 1 (central nervous system, kidney, liver, respiratory organ)
	Specific target organ toxicity following single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity following single exposure	Category 3 narcotic effects
	Specific target organ toxicity following repeated exposure	Category 1 (nervous system, respiratory organ)
	Aspiration hazard	Not classified
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
	Hazardous to the ozone layer	Classification not possible

GHS label elements

Signal word Danger

Hazard statement

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H370	Causes damage to organs (central nervous system, kidney, liver, respiratory organ).
H372	Causes damage to organs (nervous system, respiratory organ) through prolonged or repeated exposure.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P235	Keep cool.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P260	Do not breathe mist/vapours.
P261	Avoid breathing mist/vapours.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response

P302 + P352	IF ON SKIN: Wash with plenty of water.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 CENTRE/doctor.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use appropriate media to extinguish.
P391	Collect spillage.

Storage

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

Disposal

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

Other hazards which do not result in classification None known.

Supplemental information None.

3. Composition/information on ingredients

Components	CAS #	Percent
fluoro resin	Trade Secret	65
Xylene	1330-20-7	18
Ethylbenzene	100-41-4	17

4. First aid measures

First aid procedures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If breathing stops, provide artificial respiration.
Oxygen or artificial respiration if needed.
Get medical attention immediately.

Skin	Wipe up with absorbent material (e.g. cloth, fleece). Wash off with soap and plenty of water. Do not use solvents and thinner for wipe up. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Do not induce vomiting without advice from poison control center. Call a physician or poison control centre immediately.
Most important symptoms and effects, both acute and delayed	May cause drowsiness or dizziness.
Notes to physician	Provide general supportive measures and treat symptomatically.
General advice	Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Foam. Dry chemical powder. Dry sand. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. In the event of a fire, toxic gases such as hydrogen chloride, hydrogen fluoride, halocarbonyl, and carbon monoxide may be generated.
Protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In case of fire and/or explosion do not breathe fumes.
Protection of fire-fighters	Move containers from fire area if you can do so without risk. Fight fire from upwind area.
General fire hazards	Flammable liquid and vapour.
Specific methods	Remove flammable materials from the environment Use designated extinguishing media.

6. Accidental release measures

Personal precautions	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapours. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Prepare a suitable fire extinguisher in case of ignition.
Environmental precautions	Contact local authorities in case of spillage to drain/aquatic environment. Do not discharge to rivers. Be careful not to cause environmental impact Collect and dispose of spillage as indicated in section 13 of the SDS.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up

Ventilate the contaminated area.
Wear appropriate protective equipment and clothing during clean-up.
This product is miscible in water.
Prevent product from entering drains.
Do not allow material to contaminate ground water system.

Large Spills:
Stop the flow of material, if this is without risk.
Dike the spilled material, where this is possible.
Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.
Following product recovery, flush area with water.

Small Spills:
Wipe up with absorbent material (e.g. cloth, fleece).
Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.
For waste disposal, see section 13 of the SDS.

7. Handling and storage

Handling

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight.
Explosion-proof general and local exhaust ventilation.

Take precautionary measures against static discharges.
All equipment used when handling the product must be grounded.
Use non-sparking tools and explosion-proof equipment.

Do not breathe mist/vapours.
Avoid contact with eyes, skin, and clothing.
Avoid prolonged exposure.
When using, do not eat, drink or smoke.
Pregnant or breastfeeding women must not handle this product.
Should be handled in closed systems, if possible.
Use only outdoors or in a well-ventilated area.
Wear appropriate personal protective equipment.
Wash hands thoroughly after handling.
Avoid release to the environment.
Observe good industrial hygiene practices.

Storage

Store locked up.
Keep away from heat, sparks and open flame.
Prevent electrostatic charge build-up by using common bonding and grounding techniques.

Store in a cool, dry place out of direct sunlight.
Store in tightly closed container.
Store in a well-ventilated place.
Keep in an area equipped with sprinklers.
Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls / personal protection

Control parameters

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Ethylbenzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Recommended monitoring procedures Follow standard monitoring procedures.

Engineering controls Provide eyewash station and safety shower.
In case of indoor work, use auto application equipment or local ventilation equipment to prevent a worker from directly being exposed
When handling indoors, seal the source, or install a local exhaust system.
in case of working at closed place such as inner of tank, install ventilation equipment to ventilate up to the bottom of closed place.
Do not place high temperature or ignition source close to working place with this product.
Earth equipments for transportation, collection and stirring of this product.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection Wear appropriate chemical resistant clothing.
Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapour cartridge.
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hand protection Wear appropriate chemical resistant gloves.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Colour pale yellow colorless

Form Not available.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Boiling point 138 - 144 °C (280.4 - 291.2 °F)

Flash point 26.4 °C (79.5 °F) Tag closed cup

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Flammability limits in air, lower, % by volume 1 %

Flammability limits in air, upper, % by volume 7.6 %

Vapour pressure 0.6 - 0.9 kPa (20°C)

Vapour density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) hardly soluble
< 0.5 % (Solubility of fluororesin in water)

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 464 - 564 °C (867.2 - 1047.2 °F)

Decomposition temperature Not available.

Viscosity Not available.

Density 1.20 g/cm3

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Strong acids, strong oxidizing substances, and halogens can cause fires and explosions. Vapours may form explosive mixture with air. May ignite on contact with high surface temperature, sparks or open flame.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong acids. Strong oxidising agents. Halogens.
Hazardous decomposition products	Hydrogen chloride. Hydrogen fluoride. carbon monoxide and carbon dioxide.

11. Toxicological information

Toxicological data

Components	Species	Test Results
Ethylbenzene (CAS 100-41-4)		
Acute		
Dermal		
LD50	Rabbit	15400 mg/kg
Inhalation		
LC50	Rat	4000 ppm, 4 hr
Oral		
LD50	Rat	3500 mg/kg
Xylene (CAS 1330-20-7)		
Acute		
Dermal		
LD50	Rabbit	> 4350 mg/kg
Inhalation		
LC50	Rat	29.08 mg/l, 4 Hours
Oral		
LD50	Rat	3500 mg/kg

Routes of exposure	Inhalation. Skin contact. Eye contact.
Toxicological information	Occupational exposure to the substance or mixture may cause adverse effects.
Acute toxicity	
Skin corrosion/irritation	Causes skin irritation (Xylene)
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation. Causes serious eyes irritation(Xylene)

Irritation Corrosion - Eye	
Xylene	Category2
Ethylbenzene	Category2A
Respiratory sensitiser	Not available.
Skin sensitisation	Not available.
Mutagenicity	
Germ cell mutagenicity: Ames test	
LUMIFLON LF924N	OECD 471 Result: Negative
Ethylbenzene	Result: Negative
Xylene	Result: Negative
Germ cell mutagenicity: Chromosome abberation	
Ethylbenzene	Result: Negative
Xylene	Result: Negative
Germ Cell Mutagenicity: In Vitro Mammalian Cell Gene Mutation Tests	
Ethylbenzene	Result: There are both negative and positive reports.
Xylene	Result: There are both negative and positive reports.
Germ Cell Mutagenicity: Micronucleus	
Ethylbenzene	Result: Negative
Xylene	Result: Negative
Carcinogenicity	Suspected of causing cancer.
Ethylbenzene	Category2
ACGIH Carcinogens	
Ethylbenzene (CAS 100-41-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.

Xylene (CAS 1330-20-7) A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Ethylbenzene (CAS 100-41-4) 2B Possibly carcinogenic to humans.

Xylene (CAS 1330-20-7) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals.

Reproductivity

Ethylbenzene Category1B

Xylene Category1B

Specific target organ toxicity - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

Xylene Cat.1(Central nervous system,Respiratory,Liver,Kidney), Cat.3(Narcrotic

Ethylbenzene Cat.3 (Respiratory irritation, Narcotic effect)

Specific target organ toxicity - repeated exposure Causes damage to organs (nervous system, respiratory organ) through prolonged or repeated exposure.

Xylene Cat.1 (Nervous system,Respiratory organs)

Ethylbenzene Category2(Hearing organs)

Aspiration hazard Based on available data, the classification criteria are not met.

Xylene Category1

Chronic effects Prolonged inhalation may be harmful. Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.

Teratogenicity Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals.

Symptoms May cause drowsiness or dizziness. Narcosis. Headache. Nausea, vomiting. Behavioural changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Oedema. Jaundice.

12. Ecological information

Ecotoxicological data

Product		**Species**	**Test Results**
LUMIFLON LF924N			
Aquatic			
Crustacea	LC50	Brown shrimp (Penaeus aztecus)	0.4 mg/l, 96 Hours (ethylbenzene)
Fish	LC50	Rainbow trout	3.3 mg/l, 96 Hours (xylene)
Components		**Species**	**Test Results**
Ethylbenzene (CAS 100-41-4)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours
Fish	LC50	Atlantic silverside (Menidia menidia)	4.4 - 5.7 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Acute			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	3.3 mg/l, 96 hours

Ecotoxicity Toxic to aquatic life with long lasting effects. In case of leakage, disposal etc., there is a risk of influencing the environment, so handle with care. Especially when products and washing water.Take measures not to flow directly to the ground, river or drainage.

Environmental effects Toxic to aquatic life with long lasting effects. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability Easily biodegraded.（Xylene）

Bioaccumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

Ethylbenzene 3.15

Aquatic toxicity Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Mobility Not available.

Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Waste generated by wastewater treatment, incineration, etc. shall be processed or consigned according to Waste Management and Public Cleansing Act. and the related laws. Do not flush wastewater cleaned in containers, equipment, etc. to the ground or drain. Since waste generates hydrogen chloride and hydrogen fluoride when incinerated, it is incinerated in an incinerator equipped with neutralization facility and. the incinerated residue is land filled in legally right place. Do not incinerate in the case of exceeding fluorine emission standards.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). The remaining products (residual waste) should be discarded according to the law concerning waste disposal and cleaning and the prefectural / municipal regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

ADR

UN number	1866
UN proper shipping name	RESIN SOLUTION, flammable
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Hazard No. (ADR)	30
Tunnel restriction code	D/E
Packing group	III
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

UN number	1866
UN proper shipping name	RESIN SOLUTION, flammable
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	III
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	1866
UN proper shipping name	Resin solution flammable
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	1866
UN proper shipping name	RESIN SOLUTION flammable, MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary risk	-

Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to IMO instruments	Not established.

ADR; IATA; IMDG; RID

Marine pollutant

General information	IMDG Regulated Marine Pollutant. In case of falling under the Fire Service Law, Occupational Safety and Health Law, Poisonous and Deleterious Substances Control Law, follow the transportation method prescribed by each applicable law. To comply with the provisions of the ship safety law. Follow the aviation laws. When transporting, keep the container at 40 ° C or below, taking care not to fall over, fall, or damage.

15. Regulatory information

Regulatory information Ensure this materials in compliance with federal requirements and ensure conformity to local regulation.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Disclaimer

This product is an industrial product, it is not the thing which developed / manufactured assuming the medical use.

AGC Inc. Chemicals Company Coating Business Group
SDS is a document for business operators. Not all materials and literature have been investigated, so there may be information leaks. In addition, the content will change due to the announcement of new knowledge and correction of the existing theory. When used for important decisions, it is recommended to examine the sources carefully and to confirm by examination. No guarantee is made for the data or evaluation described. In addition, the items described are intended for normal handling. Therefore, when handling specially, be sure to implement safety measures suitable for new applications and usages before handling. Attach this SDS when transferring this product.