SAFETY DATA SHEET

1. Identification

GHS product identifier	**LUMIFLON LF810**
SDS number	AGC-Z-6050
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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Emergency telephone number	Verisk 3E (Access Code 335170) Europe: +0-800-680-0425 Asia Pacific: +1-760-476-3960,+66-21056177, +81-368908677 Middle East & Africa: +1-760-476-3959 US, Canada,Mexico: +1-866-519-4752 Other countries: +1-760-476-3971

2. Hazards identification

GHS classification

Physical hazards	Flammable liquids	Category 3
	Pyrophoric liquids	Not classified
	Self-heating substances and mixtures	Not classified
	Oxidising liquids	Not classified
Health hazards	Acute toxicity, oral	Not classified
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 1B
	Specific target organ toxicity following single exposure	Category 2 (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 2 (liver, testes, nervous system, respiratory organ)
	Aspiration hazard	Not classified
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
	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.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H371	May cause damage to organs (central nervous system, kidney, liver, respiratory organ).
H373	May cause damage to organs (liver, testes, nervous system, respiratory organ) through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very 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.
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.
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.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P311	IF exposed or concerned: Call a POISON CENTRE/doctor.
P332 + P313	If skin irritation occurs: 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

P235	Keep cool.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
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	45
Xylene	1330-20-7	<5
Ethylbenzene	100-41-4	<5
Nonane	111-84-2	3
1,2,4-Trimethyl benzene	95-63-6	2
1,3,5-Trimethylbenzene	108-67-8	1
CUMENE	98-82-8	0.3

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.
Call a physician or poison control centre immediately.

Skin	Take off immediately all contaminated clothing. Wipe up with absorbent material (e.g. cloth, fleece). Rinse skin with water/shower. Do not use solvents and thinner for wipe up. If skin irritation occurs: Get medical advice/attention. Thoroughly flush with plenty of water and soap or skin cleanser. Get medical attention if changes in appearance or pain occur. Wash contaminated clothing before reuse.
Eye	Get medical attention immediately. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do.
Ingestion	Rinse mouth thoroughly. Call a physician or poison control centre immediately. If swallowed, keep warm and rest,seek medical attention immediately. Do not induce vomiting without advice from poison control center.
Most important symptoms and effects, both acute and delayed	Not available.
Notes to physician	Treat symptomatically.
General advice	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. 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	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). Dry sand In the case of a large-scale fire, it is effective to shut off the air using foam extinguishing agents.
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	When thermally decomposed by a fire, highly toxic gas such as hydrogen fluoride is generated. Wear for fire fighting.
Protection of fire-fighters	In case of fire and/or explosion do not breathe fumes. 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. Cool closed containers exposed to high temperatures with water.

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. Do not breathe mist/vapours. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Environmental precautions	Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground. Do not discharge to rivers. Be careful not to cause environmental impact Adherents, waste, etc. are treated based on relevant laws and regulations.
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

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

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.
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.
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
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	25 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	25 ppm
CUMENE (CAS 98-82-8)	TWA	50 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Nonane (CAS 111-84-2)	TWA	200 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	*
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 Explosion-proof general and local exhaust ventilation.
Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Provide eyewash station and safety shower. Attach emergency shower and eye washing equipment to work area and clearly display its position.
In case of indoor work, use auto application equipment or local ventilation equipment to prevent a worker from directly being exposed

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 Liquid.

Odour Petroleum odor

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Boiling point 150 - 200 °C (302 - 392 °F)

Flash point 42.0 °C (107.6 °F)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Flammability limits in air, lower, % by volume 0.8 %

Flammability limits in air, upper, % by volume 6 %

Vapour pressure 0.8 kPa (37.8°C) （Mineral spirits）

Vapour density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Hardly soluble
< 0.5 %（Fluoro resin）（Mineral spirits）

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

Auto-ignition temperature 238 °C (460.4 °F)

Decomposition temperature Not available.

Viscosity	Not available.
Density	0.98 g/cm3 (20°C)
Other data	
Flammability	Combustible liquids

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	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point.; Contact with incompatible materials.
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
1,2,4-Trimethyl benzene (CAS 95-63-6)		
Acute		
Inhalation		
LC50	Rat	18 mg/l, 4 hours
Oral		
LD50	Rat	5000 mg/kg
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	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Irritation Corrosion - Eye	
Xylene	Category2
Ethylbenzene	Category2A

Respiratory sensitiser	Not a respiratory sensitizer.
Skin sensitisation	

Skin Sensitisation	
LUMIFLON LF810	0.1% or more and less than 1% of substance of skin sensibility 1B is included.

Mutagenicity

Germ cell mutagenicity: Ames test

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

1,2,4-Trimethyl benzene	Result: Negative
Ethylbenzene	Result: Negative
Xylene	Result: Negative

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

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

CUMENE (CAS 98-82-8)	2B Possibly carcinogenic to humans.
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. May damage fertility or the unborn child.

Reproductivity

Ethylbenzene	Category1B
Xylene	Category1B

Specific target organ toxicity - single exposure Not classified.

Xylene	Cat.1(Central nervous system,Respiratory,Liver,Kidney), Cat.3(Narcrotic
1,2,4-Trimethyl benzene	Cat.3 (Respiratory irritation, Narcotic effect)
Ethylbenzene	Cat.3 (Respiratory irritation, Narcotic effect)

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

Xylene	Cat.1 (Nervous system,Respiratory organs)
1,2,4-Trimethyl benzene	Category2(Central nervous system,lung)
Ethylbenzene	Category2(Hearing organs)

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

1,2,4-Trimethyl benzene	Category1
Xylene	Category1

Chronic effects Prolonged inhalation may be harmful. May cause 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 and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioural changes. Decrease in motor functions. May cause respiratory irritation. Skin irritation. May cause redness and pain. Oedema. Jaundice.

12. Ecological information

Ecotoxicological data

Components		Species	Test Results
1,2,4-Trimethyl benzene (CAS 95-63-6)			
Aquatic			
Crustacea	EC50	Daphnia magna	6.14 mg/l, 48 hours
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	7.19 - 8.28 mg/l, 96 hours
1,3,5-Trimethylbenzene (CAS 108-67-8)			
Aquatic			
Acute			
Fish	LC50	Goldfish (Carassius auratus)	9.89 - 15.05 mg/l, 96 hours

Components		Species	Test Results
CUMENE (CAS 98-82-8)			
Aquatic			
Acute			
Crustacea	EC50	Brine shrimp (Artemia sp.)	3.55 - 11.29 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.7 mg/l, 96 hours
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 Very 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 Very 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 No data is available on the degradability of any ingredients in the mixture.

Bioaccumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

1,2,4-Trimethyl benzene	3.78
1,3,5-Trimethylbenzene	3.42
CUMENE	3.66
Ethylbenzene	3.15
Nonane	5.65

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

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.

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

Waste generated by wastewater treatment, incineration, etc. shall be processed or consigned according to Waste Management and Public Cleansing Act. and the related laws.
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.
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 (1,3,5-trimethylbenzene)
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.
1,3,5-trimethylbenzene	

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.
Follow the aviation laws. To comply with the provisions of the ship safety law.

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
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	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 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.

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