SC30 SEALER COAT

MATERIAL SAFETY DATA SHEET

Revision: December 2, 2024

1. Identification of the Substance/Mixture and of the Company/Undertaking

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Product Identifier

Product name	SC30
Synonyms	Acrylic resin
Proper shipping name:	RESIN SOLUTION, flammable
Other means of identification:	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses:	Coating

2. Hazard Identification

Hazard Statement(s)

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H361d	Suspected of damaging unborn child.
H373	May cause damage to organs.
H226	Flammable liquid and vapour.

Precautionary Statement(s) Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.
P405	Lock up store.

Precautionary Statement(s) Disposal

P501 Dispose of contents/container in accordance with local regulations

3. Composition/Information on Ingredients

Ingredients%	weight
Xylene	30
Toluene	10
Ethylbenzene	10

4. First Aid Measures

Eye contact

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs, seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

Inhalation

- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed where possible prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital or doctor.

Ingestion

- If spontaneous vomiting appears imminent or occurs, hold patient's head down lower than their hips to help avoid possible aspiration of vomitus.
- If swallowed, do **NOT** induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

5. Firefighting Measures

Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

Fire Fighting

- Alert fire brigade of location and nature of hazard.
- Wear breathing apparatus and protective gloves.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- DO NOT approach containers suspected to be hot.
- Cool containers exposed to fire with water spray from a protected location.
- If safe to do so, remove containers from path of fire.

Fire/Explosion Hazard

- Liquid and vapour are flammable.
- Moderate fire hazard when exposed to heat or flame.
- Vapour forms an explosive mixture with air.
- Moderate explosion hazard when exposed to heat or flame.
- Vapour may travel a considerable distance to source of ignition.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).
- Combustion products include: carbon monoxide (CO), carbon dioxide (CO2) and other pyrolysis products typical of burning organic material.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Minor Spills

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid vapours and contact with skin and eyes.
- Control personal contact with the substance by using protective equipment.
- Contain and absorb small quantities with vermiculite or other absorbent material.
- Wipe up.
- Collect residues in a flammable waste container.

Major Spills

- Clear area of personnel and move upwind.
- Alert fire brigade of location and nature of hazard.
- Wear breathing apparatus and protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- Consider evacuation (or protect in place).
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leaks if safe to do so.
- Water spray or fog may be used to disperse /absorb vapour.
- Contain spill with sand, earth or vermiculite.
- Use only spark-free shovels and explosion proof equipment.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

7. Handling and Storage

Safe handling

- Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- **DO NOT** allow clothing wet with material to stay in contact with skin
- Electrostatic discharge may be generated during pumping - this may result in fire.
- Ensure electrical continuity by bonding and grounding (earthing) all equipment.
- Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<=1 m/ sec until fill pipe submerged to twice its diameter, then <= 7 m/sec).
- Avoid splash filling.
- **Do NOT** use compressed air for filling discharging or handling operations.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- **DO NOT** enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid generation of static electricity.
- **DO NOT** use plastic buckets.
- Earth all lines and equipment.
- Use spark-free tools when handling.
- Avoid contact with incompatible materials.
- When handling, **DO NOT** eat, drink or smoke.

- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storage and handling recommendations contained within this MSDS.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

Other information

- Store in original containers in approved flammable liquid storage area.
- Store away from incompatible materials in a cool, dry, well-ventilated area.
- **DO NOT** store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.
- Storage areas should be clearly identified, well illuminated, clear of obstruction and accessible only to trained and authorised personnel - adequate security must be provided so that unauthorised personnel do not have access.
- Store according to applicable regulations for flammable materials for storage tanks, containers, piping, buildings, rooms, cabinets, allowable quantities and minimum storage distances.
- Use non-sparking ventilation systems, approved explosion proof equipment and intrinsically safe electrical systems.
- Have appropriate extinguishing capability in storage area (e.g. portable fire extinguishers - dry chemical, foam or carbon dioxide) and flammable gas detectors.
- Keep adsorbents for leaks and spills readily available.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storage and handling recommendations contained within this MSDS.

In addition, for tank storages (where appropriate):

- Store in grounded, properly designed and approved vessels and away from incompatible materials.
- For bulk storages, consider use of floating roof or nitrogen blanketed vessels; where venting to atmosphere is possible, equip storage tank vents with flame arrestors; inspect tank vents during winter conditions for vapour/ ice build-up.
- Storage tanks should be above ground and diked to hold entire contents.

8. Exposure Controls/Personal Protection

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	Notes
Malaysia Permissible Exposure Limits	xylene	Xylene (o-,m-,p-isosmers)	434 mg/m3 / 199 ppm	Not Available
Malaysia Permissible Exposure Limits	toluene	Toluene	188 mg/m3 / 50 ppm	skin
Malaysia Permissible Exposure Limits	ethylbenzene	Ethyl benzene	434 mg/m3 / 100 ppm	Not Availalable

Exposure controls

Appropriate engineering controls

Process controls which involve changing the way a job activity or process is done to reduce the risk.
Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.
Employers may need to use multiple types of controls to prevent employee overexposure.
For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.
Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Personal protection

Eye and face protection

- Safety glasses with side shields.
- Chemical goggles.

Skin/Hands/feet protection

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

Body protection

- PVC protective suit may be required if exposure severe.

Other protection

- Eyewash unit.
- Ensure there is ready access to a safety shower.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	Liquid
Relative density (Water = 1)	1.0572
Auto-ignition temperature (°C)	527
Decomposition temperature	300
Viscosity (cSt)	4060
Flash point (°C)	25
Flammability	Flammable.
Upper Explosive Limit (%)	7
Lower Explosive Limit (%)	1
Vapour pressure (kPa)	1.65
Solubility in water (g/L)	Immiscible
Vapour density (Air = 1)	>1
VOC g/L	500

10. Stability and Reactivity

Chemical stability	Product is considered stable.
Conditions to avoid	Heat, Flame
Incompatible materials	Strong oxidizing materials. Strong acids and alkalis.

11. Toxicological Information

Inhaled

The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.

The acute toxicity of inhaled alkylbenzenes is best described by central nervous system depression. As a rule, these compounds may also act as general anaesthetics.

Systemic poisoning produced by general anaesthesia is characterised by lightheadedness, nervousness, apprehension, euphoria, confusion, dizziness, drowsiness, tinnitus, blurred or double vision, vomiting and sensations of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness and respiratory depression and arrest. Cardiac arrest may result from cardiovascular collapse. Bradycardia, and hypotension may also be produced.

Inhaled alkylbenzene vapours cause death in animals at air levels that are relatively similar (typically LC50s are in the range 5000 -8000 ppm for 4 to 8 hour exposures). It is likely that acute inhalation exposure to alkylbenzenes resembles that to general anaesthetics.

Alkylbenzenes are not generally toxic other than at high levels of exposure. This may be because their metabolites have a low order of toxicity and are easily excreted. There is little or no evidence to suggest that metabolic pathways can become saturated leading to spillover to alternate pathways. Nor is there evidence that toxic reactive intermediates, which may produce subsequent toxic or mutagenic effects, are formed

Inhalation hazard is increased at higher temperatures.

Acute effects from inhalation of high concentrations of vapour are pulmonary irritation, including coughing, with nausea; central nervous system depression—characterised by headache and dizziness, increased reaction time, fatigue and loss of co-ordination

When humans were exposed to the 100 and 200 ppm for 8 hours about 45-65% is retained in the body. Only traces of unchanged ethyl benzene are excreted in expired air following termination of inhalation exposure.

Humans exposed to concentrations of 23-85 ppm excreted most of the retained dose in the urine (mainly as metabolites). Guinea pigs that died from exposure had intense congestion of the lungs and generalised visceral hyperaemia. Rats exposed for three days at 8700 mg/m3 (2000 ppm) showed changes in the levels of dopamine and noradrenaline in various parts of the brain.

Headache, fatigue, lassitude, irritability and gastrointestinal disturbances (e.g., nausea, anorexia and flatulence) are the most common symptoms of xylene overexposure. Injury to the heart, liver, kidneys and nervous system has also been noted amongst workers. Xylene body burden in humans exposed to 100 or 200 ppm xylene in air depends on the amount of body fat with 4% to 8% of total absorbed xylene accumulating in adipose tissue.

Xylene is a central nervous system depressant. Central nervous system (CNS) depression may include nonspecific discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.
Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.

Ingestion

Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result.
Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis).
The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.

Skin Contact

Skin contact with the material may be harmful; systemic effects may result following absorption.
The material produces moderate skin irritation; evidence exists, or practical experience predicts, that the material produces either

- moderate inflammation of the skin in a substantial number of individuals following direct contact, and/or
- significant, but moderate, inflammation when applied to the healthy intact skin of animals (for up to four hours), such inflammation being present twenty-four hours or more after the end of the exposure period.

Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.
Open cuts, abraded or irritated skin should not be exposed to this material
Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
The mean rate of absorption of liquid ethyl benzene applied to 17.3 cm2 area of the forearm of seven volunteers for 10-15 minutes was determined to be 38 mg/cm2/hr. Immersion of the whole hand in aqueous solutions of ethyl benzene (112-156 mg/l) for 1 hour yielded mean absorption rates of 118 and 215.7 ug/cm2/hr. The rate of absorption is thus greater than that of aniline, benzene, nitrobenzene, carbon disulfide and styrene.
Repeated application of the undiluted product to the abdominal area of rabbits (10-20 applications over 2-4 weeks) resulted in erythema, oedema and superficial necrosis. The material did not appear to be absorbed through the skin in sufficient quantity to produce outward signs of toxicity.

Eye

Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterized by tearing or conjunctival redness (as with windburn).

Two drops of the ethylbenzene in to the conjunctival sac produced only slight irritation of the conjunctival membrane but no corneal injury.

Chronic

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Serious damage (clear functional disturbance or morphological change which may have toxicological significance) is likely to be caused by repeated or prolonged exposure. As a rule the material produces, or contains a substance which produces severe lesions. Such damage may become apparent following direct application in subchronic (90 day) toxicity studies or following sub-acute (28 day) or chronic (two-year) toxicity tests.

Exposure to the material may cause concerns for humans owing to possible developmental toxic effects, generally on the basis that results in appropriate animal studies provide strong suspicion of developmental toxicity in the absence of signs of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not a secondary non-specific consequence of other toxic effects.

Chronic toluene habituation occurs following intentional abuse (glue sniffing) or from occupational exposure. Ataxia, incoordination and tremors of the hands and feet (as a consequence of diffuse cerebral atrophy), headache, abnormal speech, transient memory loss, convulsions, coma, drowsiness, reduced colour perception, frank blindness, nystagmus (rapid, involuntary eye-movements), hearing loss leading to deafness and mild dementia have all been associated with chronic abuse. Peripheral nerve damage, encephalopathy, giant axonopathy electrolyte disturbances in the cerebrospinal fluid and abnormal computer tomographic (CT scans) are common amongst toluene addicts. Although toluene abuse has been linked with kidney disease, this does not commonly appear in cases of occupational toluene exposures. Cardiac and haematological toxicity are however associated with chronic toluene exposures. Cardiac arrhythmia, multifocal and premature ventricular contractions and supraventricular tachycardia are present in 20% of patients who abused toluene-containing paints.

Previous suggestions that chronic toluene inhalation produced human peripheral neuropathy have been discounted. However central nervous system (CNS) depression is well documented where blood toluene exceeds 2.2 mg%. Toluene abusers can achieve transient circulating concentrations of 6.5 %. Amongst workers exposed for a median time of 29 years, to toluene, no subacute effects on neurasthenic complaints and psychometric test results could be established.

The prenatal toxicity of very high toluene concentrations has been documented for several animal species and man. Malformations indicative of specific teratogenicity have not generally been found. Neonatal toxicity, described in the literature, takes the form of embryo death or delayed foetal growth and delayed skeletal system development. Permanent damage of children has been seen only when mothers have suffered from chronic intoxication as a result of 'sniffing'.

On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.

Prolonged or repeated contact with xylenes may cause defatting dermatitis with drying and cracking. Chronic inhalation of xylenes has been associated with central nervous system effects, loss of appetite, nausea, ringing in the ears, irritability, thirst anaemia, mucosal bleeding, enlarged liver and hyperplasia.

Exposure may produce kidney and liver damage. In chronic occupational exposure, xylene (usually mix ed with other solvents) has produced irreversible damage to the central nervous system and ototoxicity (damages hearing and increases sensitivity to noise), probably due to neurotoxic mechanisms.
Industrial workers exposed to xylene with a maximum level of ethyl benzene of 0.06 mg/l (14 ppm) reported headaches and irritability and tired quickly. Functional nervous system disturbances were found in some workers employed for over 7 years whilst other workers had enlarged livers.
Xylene has been classed as a developmental toxin in some jurisdictions.
Small excess risks of spontaneous abortion and congenital malformation were reported amongst women exposed to xylene in the first trimester of pregnancy. In all cases, however, the women were also been exposed to other substances. Evaluation of workers chronically exposed to xylene has demonstrated lack of genotoxicity. Exposure to xylene has been associated with increased risks of haemopoietic malignancies but, again, simultaneous exposure to other substances (including benzene) complicates the picture.
A long-term gavage study to mixed xylenes (containing 17% ethyl benzene) found no evidence of carcinogenic activity in rats and mice of either sex.
Industrial workers exposed to a maximum level of ethylbenzene of 0.06 mg/l (14 ppm) reported headaches and irritability and tired quickly. Functional nervous system disturbances were found in some workers employed for over 7 years whilst other workers had enlarged livers.
Prolonged and repeated exposure may be harmful to the central nervous system (CNS), upper respiratory tract, and/ or may cause liver disorders. It may also cause drying, scaling and blistering of the skin.
Rats and mice exposed to ethylbenzene for 6 hours daily, 5 days a week for 104 and 103 weeks respectively showed a statistically significant increase in kidney tumours in male and female rats, lung tumours in male mice, and liver tumours in female mice exposed to 750 ppm ethylbenzene.

TOXICITY	IRRITATION
Xylene	
Dermal (rabbit) LD50: >1700 mg/kg[2]	Eye (human): 200 ppm irritant
Inhalation (rat) LC50: 5000 ppm/4h[2]	Eye (rabbit): 5 mg/24h SEVERE
Oral (rat) LD50: 4300 mg/kgt[2]	Eye (rabbit): 87 mg mild
	Skin (rabbit):500 mg/24h moderate
Toluene	
Dermal (rabbit) LD50: 12124 mg/kg[2]	Eye (rabbit): 2mg/24h - SEVERE
Inhalation (rat) LC50: >26700 ppm/1hd[2]	Eye (rabbit):0.87 mg - mild
Inhalation (rat) LC50: 49 mg/L/4H[2]	Eye (rabbit):100 mg/30sec - mild
Oral (rat) LD50: 636 mg/kge[2]	Skin (rabbit):20 mg/24h-moderate
	Skin (rabbit):500 mg - moderate
Ethylbenzene	
Dermal (rabbit) LD50: ca.15432.6 mg/kg[1]	Eye (rabbit): 500 mg - SEVERE
Inhalation (mouse) LC50: 35.5 mg/L/2H[2]	Skin (rabbit): 15 mg/24h mild
Inhalation (rat) LC50: 55 mg/L/2H[2]	
Oral (rat) LD50: 3500 mg/kgd[2]	

12. Ecological Information

Toxicity

For xylenes :

log Koc :	2.05-3.08
Koc :	25.4-204
Half-life (hr) air :	0.24-42
Half-life (hr) H2O surface water :	24-672
Half-life (hr) H2O ground :	336-8640
Half-life (hr) soil :	2-672
Henry's Pa m3 /mol:	637-879
Henry's atm m3 /mol:	7.68E-03
BOD 5 if unstated:	1.4,1%

COD : 2.56,13%
ThOD : 3.125
BCF : 23
log BCF : 1.17-2.41
Fish LC50 (96 h) Pimephales promelas 13.4 mg/l; Oncorhyncus mykiss 8.05 mg/l; Lepomis macrochirus 16.1 mg/l (all flow through values); Pimephales promelas 26.7 (static)
Daphnia EC50 948 h): 3.83 mg/l
Photobacterium phosphoreum EC50 (24 h): 0.0084 mg/l
Gammarus lacustris LC50 (48 h): 0.6 mg/l

For ethylbenzene:
log Kow, 3.15
log Koc : 1.98-3.04
Koc : 164
log Kom : 1.73-3.23
Vapour Pressure, 1270 Pa (1.27 kPa)
Half-life (hr) air : 0.24-85.6
Half-life (hr) H2O surface water : 5-240
Half-life (hr) H2O ground : 144-5472
Half-life (hr) soil : 72-240
Henry's Pa m3 /mol: 748-887
Henry's atm m3 /mol: 8.44E-03
ThOD : 3.17
BCF : 3.15-146
log BCF : 1.19-2.67
Water solubility, 169 mg/l at 25 C
In acute aquatic toxicity testing LC50 values range approximately between 1 and 10 mg/l. In acute aquatic fish tests (fresh water species), the 96-hr LC50 for *Pimephales promelas* and *Oncorhynchus mykiss* are 12.1 and 4.2 mg/L, respectively. Data are available in the saltwater species *Menidia menidia* and give results within the same range as for the fresh water species with a 96-hr LC50 = 5.1 mg/L. In fresh water invertebrate species *Daphnia magna* and *Ceriodaphia dubia*, 48-hr LC50 values were 1.81 and 3.2 mg/L, respectively. Additional data is available in the saltwater species *Crangon franciscorium* (96-hr LC50 = 0.49 mg/L) and *Mysidopsis bahia* (96-hr LC50 = 2.6 mg/L). In 96-hr algal toxicity testing, results indicate that ethylbenzene inhibits algae growth in *Selenastrum capricornatum* at 3.6 mg/L and in Skeletonema costatum at 7.7 mg/L.
For toluene:
log Kow : 2.1-3
log Koc : 1.12-2.85
Koc : 37-260
log Kom : 1.39-2.89
Half-life (hr) air : 2.4-104
Half-life (hr) H2O surface water : 5.55-528
Half-life (hr) H2O ground : 168-2628
Half-life (hr) soil : <48-240
Henry's Pa m3 /mol: 518-694
Henry's atm m3 /mol: 5.94E-03
BOD 5 0.86-2.12, 5%
COD : 0.7-2.52,21-27%
ThOD : 3.13
BCF : 1.67-380
log BCF : 0.22-3.28

Toluene has moderate acute toxicity to aquatic organisms; several toxicity values are in the range of greater than 1 mg/L and 100 mg/L.
Fish LC50 (96 h): fathead minnow (*Pimephales promelas*) 12.6-72 mg/l; *Lepomis macrochirus* 13-24 mg/l; guppy *(Poecilia reticulata*) 28.2-59.3 mg/l; channel catfish *(Ictalurus punctatus*) 240 mg/l; goldfish *(Carassius auratus)*: 22.8-57.68 mg/l
Crustaceans LC50 (96 h): grass shrimp *(Palaemonetes pugio)* 9.5 ppm, crab larvae stage *(Cancer magister)* 28 ppm; shrimp *(Crangon franciscorum)* 4.3 ppm; daggerblade grass shrimp *(Palaemonetes pugio)* 9.5 mg/l
Algae EC50 (24 h): green algae *(Chlorella vulgaris)* 245 mg/l (growth); (72 h) green algae *(Selenastrum capricornutum)* 12.5 mg/l (growth)
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)
toluene	LOW (Half-life = 28 days)	LOW (Half-life = 4.33 days)
ethylbenzene	HIGH (Half-life = 228 days)	LOW (Half-life = 3.57 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
xylene	MEDIUM (BCF = 740)
toluene	LOW (BCF = 90)
ethylbenzene	LOW (BCF = 79.43)

Mobility in soil

Ingredient	Mobility
toluene	LOW (KOC = 268)
ethylbenzene	LOW (KOC = 517.8)

13. Disposal Considerations

Waste treatment methods / Product / Packaging disposal
Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

14. Transport Information

Sea transport (IMDG-Code / GGVSee)
UN number 1866
Packing group III
UN proper shipping name RESIN SOLUTION flammable
Environmental hazard Not Applicable
Transport hazard class(es)

- IMDG Class 3
- IMDG Subrisk Not Applicable

Special precautions for user

- EMS Number F-E , S-E
- Special provisions 223 955
- Limited Quantities 5 L

15. Regulatory Information

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	N
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y

Legend:

Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

16. Other Information

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.