Speaker (95)

Danuta's Hulajko Public Submission on Moss Vale Plastic Recycling Factory (SSD-9409987) to the Independent Planning Commission

1 November 2024

My name is Danuta Hulajko and I am a retired town planner and since then have been practicing naturopathy in the last 25 year in the Southern Highlands. Today I will put my "town planning hat" on.

Background on plastic pollution

Plastic pollution has caused long-lasting harm on a global scale, and failure to address this scourge could bring "a high risk of irreversible environmental damage", according to a thousands of peer reviewed scientific articles including, on 19 September 2024 in the prestigious international journal, *Science*.

Professor Faisal Hai , Head of School of Civil Mining, Environmental and Architecture Engineering of the University of Wollongong, published a paper In Science in March 2024 " Recycling process produces microplastic. Dr Karen Raubenheimer (24 Sept 2014) from the Australian National Centre for Ocean Resources and Security " said that so much more information has become available on the detrimental impacts of plastics since the landmark original study."

"After 20 years of research there is clear evidence of harmful effects from microplastic pollution on a global scale. That includes physical harm to wildlife (fauna and flora), harm to societies and cultures, and a growing evidence base of harm to humans (endocrine disruptors). Added to that is the fact that microplastics are persistent contaminants, and once in the environment they are virtually impossible to remove. There are still unknowns, but during the 20 years since our first study the amount of plastic in our oceans has increased by around 50 per cent, only further emphasising the pressing need for action." Word wide production of plastic doubled since 2000.

A significant amount of microplastics may have been emitted from plastic recycling facilities over the last 40 years. Evaluating the generation of microplastics from an unlikely source: The unintentional consequence of the current plastic recycling process - ScienceDirect (Dec 2023) Previous research has indicated plastic recycling to be a large generator of microplastic material [[8], [9], [10], [11]]."

Summary of finding of 20 years of scientific research

- Large amounts of microplastics are generated during the plastic recycling process.
- Polymer type and environmental exposure affect microplastic generation rates.
- PC generated 3.3 times more microplastics (size: 0.212–0.5 mm) than HDPE
- Environmental exposure increased PC microplastic generation rates by 185 %.
- Material hardness is correlated to microplastic generation rates.
-

Therefore the existing state and local government legislation alone is insufficient to address the challenge and the United Nations' Plastic Pollution Treaty – which will undergo its fifth and last round of deliberations in November 2024 – presents an opportunity to accelerate global action.

SLIDE 1 and SLIDE 2

Current State legislation and the Wingecarribbe LEP 2010 and other relevant planning instruments are out of date and do not reflect at all what is happening in the plastic manufacturing and recycling in the last 20 -40 years.

The Environmental Planning and Assessment Act 2017 No 60,Protection of the Environment Operations Act, Waste Avoidance and Resources Recovery Act, State Environmental Planning Policy (State and Regional Development) 2011, SEPP33- Hazardous and Offensive Development Application Guidelines, Wingecarribbe Shire LEP 2010 all need to be amended to reflect the Australian and the global plastic crisis.

The proposed plastic recycling facility is situated in Zone E4 General Industrial under Wingecarribbe LEP 2010

1 Objectives of zone

• to provide a range of industrial, warehouse, logistics and related land uses.

• To ensure the efficient and viable use of land for industrial uses. To minimise any adverse effect of industry on other land uses. • To encourage employment opportunities.

• To enable limited non-industrial land uses that provide facilities and services to meet the needs of businesses and workers.

• To allow non-industrial land uses, including certain commercial activities, that, because of the type, scale or nature of the use, are appropriately located in the zone and will not impact the viability of business and commercial centres in Wingecarribbe.

• To ensure new development and land uses incorporate measures that take into account the spatial context and mitigate potential impacts on neighbourhood amenity and character and the efficient operation of the local and regional road system.

2.Permitted without consent *Environmental protection works; Home-based child care; Home occupations*

3.Permitted with consent

Depots; Freight transport facilities; Garden centres; General industries; Goods repair and reuse premises; Hardware and building supplies; Industrial retail outlets; Industrial training facilities; Landscaping material supplies; Light industries; Local distribution premises; Neighbourhood shops; Oyster aquaculture; Plant nurseries; Rural supplies; Specialised retail premises; Take away food and drink premises; Tank-based aquaculture; Timber yards; Vehicle sales or hire premises; Warehouse or distribution centres; ***Any other development not specified in item 2 or 4***

This is Anonymous use

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Business premises; Camping grounds; Cemeteries; Correctional centres; Crematoria; Ecotourist facilities; Exhibition homes; Exhibition villages; Farm buildings; Forestry; Health services facilities; ***Heavy industrial storage establishments;*** *Highway service centres; Home occupations (sex services); Industries; Open cut mining; Residential accommodation; Restricted premises; Retail premises; Schools; Sex services premises; Tourist and visitor accommodation; Water recreation structures; Wharf or boating facilities*

Plastic recycling is "heavy and hazardous industrial storage establishment" This means that plastic recycling is not permissible in General Industrial E4 .I am going to demonstrate that in my analyses of the Material Safety Data Sheets

Zone E5 Heavy Industrial

Objectives of zone • to provide areas for industries that need to be separated from other land uses. • To ensure the efficient and viable use of land for industrial uses. • To minimise any adverse effect of industry on other land uses. • To encourage employment opportunities.

2 Permitted without consent Environmental protection works

3 Permitted with consent

Data centres; Depots; Freight transport facilities; General industries; ***Hazardous storage establishments;*** *Heavy industries; Industrial training facilities; Offensive storage establishments; Oyster aquaculture; Tank-based aquaculture; Warehouse or distribution centres; Any other development not specified in item 2 or 4*

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Camping grounds; Car parks; Caravan parks; Cemeteries; Centre-based child care facilities; Commercial premises; Community facilities; Correctional centres; Crematoria; Eco-tourist facilities; Educational establishments; Entertainment facilities; Exhibition homes; Exhibition villages; Farm buildings; Forestry; Function centres; Health services facilities; Highway service centres; Home-based child care; Home businesses; Home industries; Home occupations; Home occupations (sex services); Industrial retail outlets; Information and education facilities; Local distribution premises; Mortuaries; Open cut mining; Passenger transport facilities; Places of public worship; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Residential accommodation; Respite day care centres; Restricted premises; Self-storage units; Service stations; Sex services premises; Tourist and visitor accommodation; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Water recreation structures; Wharf or boating facilities

Wingecarribbe LEP2010 (Definitions) *states*

hazardous industry means a building or place used to carry out an industrial activity that would, when carried out and when all measures proposed to reduce or minimise its impact on the locality have been employed (including, for example, measures to isolate the activity from existing or likely future development on other land in the locality), pose a significant risk in the locality—

(a) to human health, life or property, or

(b) to the biophysical environment.

Note—

Hazardous industries are a type of *heavy industry*—see the definition of that term in this Dictionary.

hazardous storage establishment means a building or place that is used for the storage of goods, materials or products and that would, when in operation and when all measures proposed to reduce or minimise its impact on the locality have been employed (including, for example, measures to isolate the building or place from existing or likely future development on other land in the locality), pose a significant risk in the locality—

(a) to human health, life or property, or

(b) to the biophysical environment.

Note—

Hazardous storage establishments are a type of *heavy industrial storage establishment*—see the definition of that term in this Dictionary.

SLIDE 3 (Appendix 3 of SEPP 33)

The proposed development needs to be assessed in accordance with SEPP 33 and any plastic recycling facilities must be included in Appendix 3 of SEPP33. New type of plastic has been introduced in the last 40 years and it production of plastic has doubles since 2000. We cannot present that nothing has changed in plastic manufacturing and recycling in the last 20-40 years

Slide 3

Appendix 3

Industries that may fall within SEPP 33

INDUSTRIES THAT MAY BE POTENTIALLY HAZARDOUS

Industry	Sources of Hazard	Possible Impacts
Aluminium dross processing	Emissions	Exposure to toxic hydrogen fluoride gas
Chemical, including resins, fertilisers and pesticides	Raw materials, Products, Process conditions	Fire, explosion, toxic exposure
Coal handling	Coal dust	Dust explosion
Food processing	Refrigerant leaks(Ammonia)	Toxic and explosive gas
Grain handling	Grain dust	Dust explosion
Industrial gas processing, storage and handling	Toxic, flammable or pressurised gases	Fire, explosion, toxic exposure
LPG storage and handling facilities	Gas leaks	Fire, explosion
Metal foundries	Water trapped in scrap	Steam explosion with spray of molten metal
Oil and gas extraction and processing	Pressurised gas in wells, processing conditions	Fire, explosion
Paint and surface coatings	Solvents	Fire, explosion, emissions of toxic gases
Petrochemical	Various petrochemicals, Process conditions	Fire, explosion, exposure to toxic gases & liquids
Petrol stations	Liquid fuel leaks/spills	Fire, explosion
Petroleum refining	Liquid Fuels, Gas, Process conditions	Fire, explosion
Pool chemicals	Mixing of incompatible chemicals	Fire, toxic gas release
Pulp and paper manufacture	Processing chemicals	Toxic exposure, environmental damage
Smelting (e.g. Copper, Aluminium, Zinc)	Emissions	Sulphur dioxide, acid mist emissions
Starch	Dust	Dust explosions
Vegetable oil extraction and processing	Oil, Seedcake, Spent bleaching earth, Solvent	Spontaneous combustion, Fire, explosion
Waste lubricating oil recycling	Dissolved fuels.	Fire, explosion
Water/Sewage treatment	Chemical spills, Mixing of incompatibles	Exposure to toxic liquids and gases

The NSW Environmental Planning and Assessment Act 2017, SEPP33 , Wingecarribbe LEP 2010 are out of date and do not reflect the global scale of plastic crisis, and fail to address this scourge could bring "a high risk of irreversible environmental damage" The NSW should also introduce legislation that holds companies accountable for the environmental impact of their products.

SLIDE 4

Based on my detailed analyses of Material Safety Data Sheets of all mixed plastic proposed to be recycled: PET , HDPE, PP, ABS , LDPE , UPVC they are all toxic and hazardous, causing cancers, cardiovascular diseases ,respiratory failure, reproductive issues , some are potential of explosive properties(dust from ABS, PP), carbon dioxide LDPE), microplastic in air , water , soil, food and ultimately in our bodies.

So, how do you call then explosive compounds and cancer causing substances if not toxic and hazardous industry? Plastic recycling belongs in the Zone E5 Heavy Industry

Also a new industrial toxic and hazardous zone needs to be introduced in the Environmental Planning and Assessment Act 2017 and Wingecarribbe LEP 2010

SLIDE 5 (page 7-13 of the EIS)

It shows all proposed plastic to be recycled

It is well known fact that washing, boiling dirty bottes in water. Shredding it into flakes is the largest source of microplastic in the recycling, which in not caught and goes into the effluent or as a liquid trade waste, which is the Council's responsibility. This is really concerning.

Also PVC are hardly recyclable and should be avoided, plastic can be recycled only twice. So all this is plastic recycling is a "Utopian idea" with dire consequences. There are plant based plastic technologies already available.

Slide 4

1
PET
POLYETHYLENE TEREPHTHALATE
WATER BOTTLES; JARS; CAPS
2
HDPE
HIGH-DENSITY POLYETHYLENE
SHAMPOO BOTTLES; GROCEY BAGS
3
PVC
POLYVINYL CHLORIDE
CLEANING PRODUCTS; SHEETINGS
4
LDPE
LOW-DENSITY POLYETHYLENE
BREAD BAGS; PLASTIC FILMS
5
PP
POLYPROPYLENE
YOGURT CUPS; STRAWS; HANGERS
6
PS
POLYSTYRENE
TAKE-AWAY AND HARD PACKAGING; TOYS
7
OTHER
OTHER
BABY BOTTLES; NYLON; CDS

EIS, Volume 1 Slide 5

7.5 Plastics recycling and reprocessing operations

7.5.1 Feedstock quantities and characteristics

Feedstock types, volumes and composition

The proposal would have capacity to receive up to 120,000 tonnes per year of mixed plastic waste feedstock. At full scale operation, this is expected to comprise about 100,000 tonnes of mixed plastics and up to 20,000 tonnes of polyvinyl chloride (PVC) and plastic films.

The facility would have the capability to process the following plastic types received as mixed plastic:

- Polyethylene terephthalate (PET) bottles 1
- High-density polyethylene (HDPE) bottles 2
- Polypropylene (PP) bottles 5
- Acrylonitrile butadiene styrene (ABS) 6
- Low-density polyethylene (LDPE) films 4
- Unplasticized polyvinyl chloride (UPVC) pipes

The mixed plastics and plastic film is expected to be received and stored in bales.

Further information on the expected feedstock quantities and composition is provided in chapter 9.

Excluded wastes

Putrescible waste, liquid waste, clinical waste, hazardous waste, asbestos and other chemical waste would not be accepted at the facility.

7.5.2 Plastics recycling and reprocessing process overview

Figure 7.6 provides a high-level overview of the proposed plastics recycling and reprocessing process.

After unloading the incoming mixed plastic waste feedstock, it would undergo a series of mechanical, manual and optical screening and sorting processes to separate the plastics into different types and colours. The first process would be to separate the bales of plastic.

Mixed plastics would first be sorted by colour. The sorted materials would then undergo crushing (flaking), washing and batch mixing. Depending on the plastic type and intended end use, some of the flakes would either be pelletised (via extrusion granulation) or milled into powder. The resulting flakes, pellets or powder would be either processed further on-site to produce advanced plastic products (deep processing) or transported off-site for direct sale.

The following sections provides further detail on each of the key proposed recycling and reprocessing processes.

SLIDE 6 (Air quality)

Pollutants are specified and MSDS are attached in the submission

SLIDE 7 (ABS)

According to MSDS it is not hazardous (polymeric state) but not in volatile state.

Section 10: Stability and reactivity: Avoid excessive heat (does not specify the temperature), flames and all source of ignition

Section 11 Toxicological Information is states

Acute toxicity (oral) lack of data

Acute toxicity (dermal) lack of data

Acute toxicity (exhalative): lack of data

Skin corrosion/ irritation: lack of data. May cause irritation

It contains Acrylonitrile SDS for ABS.pdf (carcinogen, teratogen, flammable, reactive chemical and explosion hazard) and Styrene Styrene.pdf which is carcinogenic.

Therefore the proposed plastic recycling factory in Moss Vale is **hazardous storage and hazardous industry** as demonstrated in my attached Material Safety Data Sheets for PET, HDPE, PP, ABS, LDPE, and UPVC in my submissions to the Department of Planning and the Independent Planning Commission.

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Moss Vale Enterprise Corridor Development Control Plan August 2008 (adopted 24 October 2012)

The Enterprise Corridor will cater for conventional light and general industrial development to meet local and regional demands for industrial land. It is also anticipated to accommodate business park commercial development and larger scale freight storage and distribution operations associated with existing rail infrastructure and a possible intermodal freight terminal

Technical report 3 Air Quality and Odour
25 Jan 2022
Update 6

6.2.2 Modelled emissions

The modelling assessment included emissions from the four air pollution control system stacks only. As outlined in section 5.4, three of the control systems will be for the control of VOCs, with one for the control of particulate matter from the deep processing area. The locations of the stacks are shown in Figure 5.4.

Given the above, modelling is carried out for the following parameters:

- Particulate matter, including PM_{10} and $PM_{2.5}$ (from one stack) - it is assumed that 100% of the particulate matter emission is $PM_{2.5}$ (which is an extremely conservative assumption). On this basis, total particulate emissions are equal to PM_{10} emissions, which are equal to $PM_{2.5}$ emissions.
- Individual VOCs, including benzene, toluene and styrene (from three stacks)

As there are no TVOC criteria available for assessment, TVOC emissions are not modelled, and VOC impacts are instead assessed by modelling of key individual VOCs (benzene, toluene, styrene).

6.2.3 Assessment criteria

Assessment criteria used for the project was from the NSW EPA's Approved Methods, with the exception of $PM_{2.5}$ which was sourced from the Air NEPM air quality objectives, which represent the most recent and stringent standards for protection of the air quality environment.

The adopted air quality assessment criteria are summarised in Table 6.5.

1 micron = 0.001 mm particle matter

Table 6.5 Air quality impact assessment criteria

Pollutant	Averaging period	Statistic	Impact location	Impact type	Assessment Criteria (µg/m³)	
					EPA	Air NEPM
PM_{10}	24 hour	Maximum	Sensitive receptor	Cumulative	50	50
	Annual	Maximum	Sensitive receptor	Cumulative	25	25
$PM_{2.5}$	24 hour	Maximum	Sensitive receptor	Cumulative	25	20
	Annual	Maximum	Sensitive receptor	Cumulative	8	7
Benzene	1 hour	99.9th percentile	At or beyond site boundary	Incremental	29	-
Styrene*	1 hour	99.9th percentile	Sensitive receptor	Incremental	120	-
Toluene*	1 hour	99.9th percentile	Sensitive receptor	Incremental	360	-

Note: criteria for styrene and toluene are sourced from Table 7.4.a of the Approved Methods – 'Impact assessment criteria for individual odourous air pollutants (Victorian Government Gazette 2001). These criteria are for the protection against odour impacts.

fine particles suspended in the air < 10 micro meter

6.2.4 Predicted impacts

The predicted impacts were assessed at nearby sensitive receptors for the primary production of the facility. The predicted concentrations were assessed against the assessment criteria provided in Table 6.5.

Recommendations to further reduce the risk of air quality impacts at sensitive receptor locations due to processing operations are discussed in Section 7.2.

Predicted incremental concentrations

The predicted impacts (impacts from facility operations only) for PM and VOC are presented in Table 6.6 and Table 6.7 respectively. There are no predicted incremental exceedances of the assessment criteria. The "worst-case" predicted impacts for all pollutants occur at the commercial receptor R001, the Australian BioResources Facility. Impacts for particulate matter have also been presented for the worst affect residential receptor. However, the results show that the maximum impacts at both receptors are significantly below the EPA criteria.

Contour plots showing incremental $PM_{2.5}$, PM_{10} and benzene dispersion are provided in Figure 6.1, Figure 6.2 and Figure 6.3. Concentrations of styrene and toluene do not exceed 20% of the criteria level and as such contour plots have not been provided.

Extrusion

Slide 7

NETCO EXTRUDED PLASTICS

Safety Data Sheet

Acrylonitrile-Butadiene-Styrene Copolymer (ABS)

According to EU 2015/830 (REACH) and 1272/2008 (CLP)

Product name: **ABS** Version 1 Revision Date: June 1,2015

Section 1: Identification of the substance/ mixture and of the company/ undertaking

1.1 Product identifier

Product name: **R03003**

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

Relevant identified uses: Mixture used for the production of molded plastic articles

1.3 Details of the supplier of the Safety Data Sheet

Supplier: Netco Extruded Plastics
Address: 30 Tower Street
Hudson, MA 01749
USA
Telephone: 877-638-2621

1.4 Emergency telephone number

Emergency telephone : 877-638-2621

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC: Not classified as hazardous (polymeric state)

Classification according to Regulation (EC) N° 1272/2008 (CLP): Not classified as hazardous (polymeric state)

2.2 Label elements

Not labelled as hazardous

2.3 Other hazards

vPvB/PBT assessment: not available

Section 3: Composition/information on ingredients

3.1 Composition of the substance/ preparation

Substance or Preparation Substance
Content

CAS	Name	Content
9003-56-9	Acrylonitrile-Butadiene-Styrene Copolymer	>98%
-		≤ 2%

Impurities Contributing to Hazard None

3.2 Additional information:

Reach info:

For safety reasons unsuitable extinguishing agents: -

5.2 Special hazards arising from the substance or mixture: -

5.3 Advice for firefighters

Protective equipment: Self-contained breathing apparatus

Further measures: -

5.4 Additional information: -

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment & emergency procedures

Pellets or powder remained on ground may cause slipping
Wear protective equipment
Ensure adequate ventilation
Keep away from ignition sources
Keep unprotected persons away

6.2 Environmental precautions

Gather pellets and powder thoroughly to avoid birds or fishes taking from draining water.
Do not allow product to reach sewage system or water bodies. Inform respective authorities in case product reaches water, sewage system or soil

6.3 Methods and material for containment and cleaning up

Recovery if not contaminated or disposal

6.4 Reference to other sections

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment.

Section 7: Handling and storage

7.1 Precautions for safe handling

Protective measures: -

Measures to prevent fire: Prevent from fire around handling area

Measures to prevent aerosol and dust generation: maintain good housekeeping standards to prevent accumulation of dust. To avoid dust explosion resulting from the existence of powder, electrostatics eliminators and grounding should be fixed to such equipment as air transferring pipes, bag filters and hoppers. Use electrically conductive filters for bag filters.

Measures to protect the environment: -

Advice on general occupational hygiene: -

pH	Not applicable
Melting point / freezing point	not determined
Initial boiling point and boiling range	Not applicable
Flash point	404 °C
Evaporation rate	Not applicable
Flammability (solid, gas)	Not available
Upper/lower flammability or explosive limits	45 g/m³ (open cup, powder)
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density (H2O=1)	1,03 - 1,10 g/cm³
Bulk density	Not available
Solubility(ies)	Not soluble
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	466 °C
Decomposition temperature	> 300 °C
Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	Not oxidizing

9.2 Other safety information: -

Section 10: Stability and reactivity

10.1 Reactivity: Non-reactive under normal handling and storage conditions

10.2 Chemical stability: Stable under normal handling and storage conditions

10.3 Possible hazardous reaction: -

10.4 Conditions to avoid: Avoid excessive heat, flames and all sources of ignition

10.5 Incompatible materials: not applicable

10.6 Hazardous decomposition products: not applicable

Section 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects:
- Acute toxicity (oral): Lack of data.
- Acute toxicity (dermal): Lack of data.
- Acute toxicity (inhalative): Lack of data.
- Skin corrosion/irritation: Lack of data. May cause irritations.

Further details:
- Biodegradation: Product is not readily biodegradable.
- The product is likely to persist in the environment.

Effects in sewage plants:
- In sewage treatment plants it may be separated mechanically.

12.3 Bioaccumulative potential

To avoid bioaccumulation plastics should not be disposed in the sea or in other water environments.

12.4 Mobility in soil

no data available

12.5 Results PBT & vPvB assessment

According to the revised Annex XIII of regulation (EC) 1907/2006 and (EC) 253/2011: No information available on the product as such

12.5 Other adverse effects:

General information: Do not allow to enter into ground-water, surface water or drains.

12.7 Additional information: -

Section 13: Disposal considerations

13.1 Waste treatment methods

Product / Packaging disposal: Dispose in accordance with the current local regulations.
Waste codes according to European Waste Catalogue: -
Waste treatment-relevant information: Inadequate incineration may generate toxic gases such as CO, HCN, AN and SM
Sewage disposal-relevant information: -
Other disposal recommendations: -

Section 14: Transport information

ADR/RID

14.1 UN number
Not applicable

14.2 UN proper shipping name
Proper Shipping Name: NOT REGULATED

14.3 Transport hazard class(es)
Not applicable

14.4 Packing Group
Not applicable

15.1 Safety, health and environmental regulations /legislation specific for the substance or mixture

Authorization and / or restrictions on use: None
Other EU regulations: The following substances are under European Seveso regulation:

Substance	Seveso category	Other Seveso categories	Seveso concentrations	Categories
Acrylonitrile	2	9ii	10 % ≤ C < 20 % 2	2
Buta-1,3-diene	0	8	-	-
Styrene	6	-	C ≥ 12,5 % -	-

Other national regulations:

U.S. REQULATIONS :
TSCA INVENTORY STATUS : This product complies with the Chemical Substance Inventory requirements of the US EPA TSCA.
CERCLA SECTION 103 (40CFR302.4) : Not Listed
SARA SECTION 313 (40CFR372.65) : Not Listed
SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21)

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment is not yet required.

Section 16: Other information

16.1 Indication of changes

Version 1: First issue according to Regulations (EC) 453/2010 (REACH) & 1272/2008 (CLP)

16.2 Key literature references and sources for data

http://esis.jrc.ec.europa.eu/
http://echa.europa.eu/
http://gestis-en.itrust.de

16.3 Relevant R-phrases and/or H-statements (number and full text):

H220 Extremely flammable gas
H225 Highly flammable liquid and vapour
H226 Flammable liquid and vapour
H301 Toxic if swallowed
H311 Toxic in contact with skin
H316 Causes skin irritation
H317 May cause an allergic skin reaction
H318 Causes serious eye damage
H319 Causes serious eye irritation
H331 Toxic if inhaled
H332 Harmful if inhaled

R10 Flammable
R11 Highly flammable
R12 Extremely flammable
R20 Harmful by inhalation
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed
R36 Irritating to eyes
R37 Irritating to respiratory system
R38 Irritating to skin
R40 Limited evidence of a carcinogenic effect
R41 Risk of serious damage to eyes

Safety Data Sheet

ABS Sheet and Film

This information is pertinent to the safe handling of ABS (Acrylonitrile-Butadiene-Styrene) plastic sheet, and alerts the user to possible health hazards related to its processing.

This bulletin should be read by management and supervisory people who are responsible for safe and proper working conditions in the workplace and should be made available to those employees who work directly with these materials. Many of the terms used here provide an indication of the degree of hazard involved but may not be understood by the layman. For this reason, your safety programs and job instruction should cover all precautions necessary in handling these materials.

The processing of these plastics should be under the supervision of qualified individuals who are familiar with their properties. These data and comments are not relevant to the suitability of the material for any particular end-use, nor for possible health hazards related to an end-use application. Please call (713) 645-4915 to discuss any concerns you may have on these matters.

A&C Plastics ABS sheet and film is produced by its extrusion division from ABS resin supplied by various manufacturers including (but not limited to) GE, Dow Chemical, and Monsanto.

1. Product characteristics

Appearance and odor:	Various dependent upon base resin and colorant.
Specific Gravity:	1.02-1.17. Specific gravity will vary within these ranges depending upon the color-pigments added for each specific color.
Non-aqueous volatiles:	Typically less than 1.0% by weight.
Softening point:	(ASTM D1525) 218-262°F (103-128°C) This material has no sharp melting point but softens gradually over a wide temperature range.
Solubility in water:	Negligible
Typical ignition temperature:	(ASTM D1929, Method B) Flash-ignition temperature 660°F (349°C), is that lowest initial temperature of air surrounding a test specimen at which sufficient combustible volatiles are evolved to be ignited by an external pilot flame. Self-ignition temperature, 946°F (508°C), is that lowest initial temperature of air surrounding a test specimen at which ignition occurs, i.e., explosion, flame or glow, without an external source of ignition.

Thermal decomposition products:	ABS sheet or film is stable under recommended conditions processing. The approximate heat-degradation temperature, dependent upon residence time, is 525-550□F (274-288□C). Heating this sheet above 525□F (274□C) should be avoided. Typical decomposition gases from ABS could be styrene and acrylonitrile monomers: increased amounts of such materials as acrolein, acetaldehyde, alpha methyl styrene, acetophenone, ethyl benzene, cumene and phenol/benzaldehyde.

3. Storage, handling, and shipping

Storage:	Avoid storing sheet or film near foodstuffs to avoid the possibility of odor and taste contamination of the food. Do not store sheet or film near heating devices, hot pipes, etc. to avoid the possibility of ignition and flame hazards. Store materials in a cool, dry environment away from the weather and from sources of heat.
Shipping:	ABS is not considered as hazardous under any definition of the Federal Hazardous Substances ACT, Title 16 CFR, Section 1500.3; and is not regulated for shipping purposes by the US Department of Transportation.

4. Fire hazard information

ABS sheet and films will burn when exposed to an external source of ignition, releasing intense heat and large amounts of dense, black smoke. They do not present an explosion hazard. In storage situations involving pallets of sheet or roll stock, there is some indication that flame spread will not be rapid or extreme but tends to travel rather slowly from the point of ignition. In fire conditions, however, ABS will contribute fuel to the fire; therefore, these materials should never be considered as a fire-barrier in storage areas. Typical Ignition Temperatures (ASTM D1929, Method B) are 660°F (349°C) flash ignition and 946°F(508°C) self-ignition as stated before. Flash ignition temperature is that lowest initial temperature of air surrounding a test specimen at which sufficient combustible volatiles are evolved to be ignited by an external pilot flame. Self-ignition temperature is that lowest initial temperature of air surrounding a test specimen at which ignition occurs i.e. explosion, flame or glow, without an external source of ignition. The fuel content and high temperatures will require immediate attention and vigorous efforts to bring about control of the fire and suppression of the fire should begin immediately.

The ABS plastic will melt, but it will not be carried to the surface of water, and water can be used freely to control an ABS fire. Use a water spray to cool fire-posed containers and to solidify and flush away molten plastic. Fire-fighters should be equipped for protection against high heat levels, rapid depletion of oxygen, heavy smoke, molten plastic and toxic combustion gases. They should be provided the necessary protective clothing and use a self-contained breathing apparatus approved by NIOSH or US Bureau of Mines for all fires. Personnel not involved in containing a fire, or not properly protected, should leave the area. Contact with the molten resin may produce severe burns. Cool the skin and plastic with water and allow a physician to remove the solid plastic from the skin and treat the burn areas. Use dry chemical, carbon dioxide, foam, water fog or spray as extinguishing media. Most gases, fumes and particulate matter evolved from a burning substance are toxic and the ABS combustion products are no exception. The expected major hazards from burning ABS are intense heat and very high levels of dense, black smoke containing carbon monoxide and hydrogen cyanide. Appreciable amounts of carbon dioxide and

Pure chems

ABS (Acrylonitrile Butadiene-Styrene Copolymer

MATERIAL SAFETY DATA SHEET (MSDS) - STYRENE (Stabilized)

1. Product Identification

Synonyms : Styrene Monomer; Vinylbenzene; Phenylethylene; Styrol; Cinnamene; Ethenylbenzene

CAS No. : 100-42-5

Molecular Weight : 104.15

Chemical Formula : C6H5CH:CH2

COMPANY IDENTIFICATION

Supplier: **Pon Pure Chemicals Group**
CHENNAI, TAMILNADU, INDIA

24 Hour Health Emergency (91) 8939878447
(91) 9444038694

Transportation Emergency Phone (91) 8939768680

Company Name	Place	EMERGENCY TELEPHONE NUMBER
Pon Pure Chemicals Group	India	Day Emergency – 044-26161803-26161809

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Styrene	100-42-5	90 - 100%	Yes

3. Hazards Identification

Emergency Overview

DANGER! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER AND REPRODUCTIVE SYSTEM.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Do NOT induce vomiting. Give large amounts of water. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Flash point : 31C (88F) CC

Autoignition temperature : 490C (914F)

Flammable limits in air % by volume: lel: 0.9; uel: 6.8

Flammable Liquid and Vapor! May accumulate static electricity. Contact with strong oxidizers may cause fire.

Explosion:

Sealed containers may rupture when heated. Above the flash point, explosive vapor-air mixtures may be formed. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide. Material floats on water and may travel back to an ignition source and spread fire. Water spray may be used to keep fire exposed containers cool. Do not allow water runoff to enter sewers or waterways.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded, a half-face organic vapor respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic vapor respirator may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance	: Colorless to yellow oily liquid.
Odor	: Penetrating odor.
Solubility	: Negligible (< 0.1%)
Density	: 0.9059 @ 20C
pH	: No information found.
% Volatiles by volume @ 21C (70F):	100
Boiling Point	: 145 - 146C (293 - 295F)
Melting Point	**:** - 30.6C (-24F)
Vapor Density (Air=1)	**:** 3.6
Vapor Pressure (mm Hg)	**:** 5 @ 20C (68F)
Evaporation Rate (BuAc=1)	**:** No information found.

Styrene (100-42-5)	No	No	2B

12. Ecological Information

Environmental Fate:

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to quickly evaporate. When released into water, this material is expected to readily biodegrade. When released to water, this material is expected to quickly evaporate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of less than 1 day.

Environmental Toxicity:

The LC50/96-hour values for fish are between 1 and 10 mg/l.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name : STYRENE MONOMER, STABILIZED
Hazard Class : 3
UN/NAPacking Group : III

International (Water, I.M.O.)

Proper Shipping Name : STYRENE MONOMER, STABILIZED
Hazard Class : 3
UN/NA : UN2055
Packing Group : III

International (Air, I.C.A.O.)

Proper Shipping Name : STYRENE MONOMER, STABILIZED
Hazard Class : 3

buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.

Acrylonitrile is contained in ABS plastic

New Jersey Department of Health and Senior Services

HAZARDOUS SUBSTANCE FACT SHEET

Common Name: **ACRYLONITRILE**

CAS Number: 107-13-1
DOT Number: UN 1093 (Inhibited)
DOT Hazard Class: 3 (Flammable Liquid)

RTK Substance number: 0024
Date: May 1998 Revisions: December 2005

HAZARD SUMMARY

* **Acrylonitrile** can affect you when breathed in and by passing through your skin.
* **Acrylonitrile** is a CARCINOGEN--HANDLE WITH EXTREME CAUTION.
* **Acrylonitrile** should be handled as a TERATOGEN--WITH EXTREME CAUTION.
* Skin contact can cause severe irritation and blistering.
* Exposure to **Acrylonitrile** can irritate the eyes, nose, and throat.
* Breathing **Acrylonitrile** can irritate the lungs causing coughing and/or shortness of breath. Higher exposures can cause a build-up of fluid in the lungs (pulmonary edema), a medical emergency, with severe shortness of breath.
* Exposure to **Acrylonitrile** can cause weakness, headache, dizziness, confusion, nausea, vomiting, and can lead to death.
* Repeated exposure can irritate the nose causing discharge, nosebleeds, and sores inside the nose.
* **Acrylonitrile** may affect the liver.
* **Acrylonitrile** is a FLAMMABLE and REACTIVE chemical and a FIRE and EXPLOSION HAZARD.

IDENTIFICATION

Acrylonitrile is a clear, colorless or slightly yellowish liquid with a faint odor. It is used to make synthetic fibers and polymers.

REASON FOR CITATION

* **Acrylonitrile** is on the Hazardous Substance List because it is regulated by OSHA and cited by ACGIH, DOT, NIOSH, NTP, DEP, IARC, IRIS, NFPA, and EPA.
* This chemical is on the Special Health Hazard Substance List because it is a **CARCINOGEN** and **TERATOGEN**, and is **FLAMMABLE** and **REACTIVE**.
* Definitions are provided on page 5.

HOW TO DETERMINE IF YOU ARE BEING EXPOSED

The New Jersey Right to Know Act requires most employers to label chemicals in the workplace and requires public employers to provide their employees with information and training concerning chemical hazards and controls. The federal OSHA Hazard Communication Standard 29 CFR 1910.1200, requires private employers to provide similar training and information to their employees.

* Exposure to hazardous substances should be routinely evaluated. This may include collecting personal and area air samples. You can obtain copies of sampling results from your employer. You have a legal right to this information under the OSHA Standard 29 CFR 1910.1020.
* If you think you are experiencing any work-related health problems, see a doctor trained to recognize occupational diseases. Take this Fact Sheet with you.
* **ODOR THRESHOLD = 1.6 ppm.**
* The range of accepted odor threshold values is quite broad. Caution should be used in relying on odor alone as a warning of potentially hazardous exposures.

WORKPLACE EXPOSURE LIMITS

OSHA: The legal airborne permissible exposure limit (PEL) is **2 ppm** averaged over an 8-hour workshift and **10 ppm**, not to be exceeded during any 15 minute work period.

NIOSH: The recommended airborne exposure limit is **1 ppm** averaged over a 10-hour workshift and **10 ppm**, not to be exceeded during any 15 minute work period.

ACGIH: The recommended airborne exposure limit is **2 ppm** averaged over an 8-hour workshift.

* **Acrylonitrile** is a PROBABLE CARCINOGEN in humans. There may be no safe level of exposure to a carcinogen, so all contact should be reduced to the lowest possible level.
* **Acrylonitrile** may be a teratogen in humans. All contact with this chemical should be reduced to the lowest possible level.
* The above exposure limits are for air levels only. When skin contact also occurs, you may be overexposed, even though air levels are less than the limits listed above.

congenital disorders in developing embryo or fetus

In addition, the following controls are recommended:

* Where possible, automatically pump liquid **Acrylonitrile** from drums or other storage containers to process containers.
* Before entering a confined space where **Acrylonitrile** may be present, check to make sure that an explosive concentration does not exist.
* Specific engineering controls are required for this chemical by OSHA. Refer to the OSHA Standard: 29 CFR 1910. 1045 **Acrylonitrile**.

Good **WORK PRACTICES** can help to reduce hazardous exposures. The following work practices are recommended:

* Workers whose clothing has been contaminated by **Acrylonitrile** should change into clean clothing promptly.
* Do not take contaminated work clothes home. Family members could be exposed.
* Contaminated work clothes should be laundered by individuals who have been informed of the hazards of exposure to **Acrylonitrile**.
* Eye wash fountains should be provided in the immediate work area for emergency use.
* If there is the possibility of skin exposure, emergency shower facilities should be provided.
* On skin contact with **Acrylonitrile**, immediately wash or shower to remove the chemical. At the end of the workshift, wash any areas of the body that may have contacted **Acrylonitrile**, whether or not known skin contact has occurred.
* Do not eat, smoke, or drink where **Acrylonitrile** is handled, processed, or stored, since the chemical can be swallowed. Wash hands carefully before eating, drinking, smoking, or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT

WORKPLACE CONTROLS ARE BETTER THAN PERSONAL PROTECTIVE EQUIPMENT. However, for some jobs (such as outside work, confined space entry, jobs done only once in a while, or jobs done while workplace controls are being installed), personal protective equipment may be appropriate.

The OSHA Standard 29 CFR 1910.132 requires employers to determine the appropriate personal protective equipment for each hazard and to train employees on how and when to use protective equipment.

The following recommendations are only guidelines and may not apply to every situation.

Clothing

* Avoid skin contact with **Acrylonitrile**. Wear protective gloves and clothing. Safety equipment suppliers/manufacturers can provide recommendations on the most protective glove/clothing material for your operation.
* Safety equipment manufacturers recommend *Butyl Rubber, Viton®/Butyl, Silver Shield/4H®, Responder* and *Tychem BR/LV* and *TK®* as protective materials.
* All protective clothing (suits, gloves, footwear, headgear) should be clean, available each day, and put on before work.

Eye Protection

* Wear indirect-vent, impact and splash resistant goggles when working with liquids.
* Wear a face shield along with goggles when working with corrosive, highly irritating or toxic substances.
* Contact lenses should not be worn when working with this substance.

Respiratory Protection

IMPROPER USE OF RESPIRATORS IS DANGEROUS. Such equipment should only be used if the employer has a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing and medical exams, as described in the OSHA Standard 29 CFR 1910.134.

* Where the potential exists for exposure over **1 ppm**, use a NIOSH approved supplied-air respirator with a full facepiece operated in a pressure-demand or other positive-pressure mode. For increased protection use in combination with an auxiliary self-contained breathing apparatus operated in a pressure-demand or other positive-pressure mode.
* Exposure to **85 ppm** is immediately dangerous to life and health. If the possibility of exposure above **85 ppm** exists, use a NIOSH approved self-contained breathing apparatus with a full facepiece operated in a pressure-demand or other positive-pressure mode equipped with an emergency escape air cylinder.

HANDLING AND STORAGE

* Prior to working with **Acrylonitrile** you should be trained on its proper handling and storage.
* A regulated, marked area should be established where **Acrylonitrile** is handled, used, or stored as required by the OSHA Standard 29 CFR 1910.1045 **Acrylonitrile**.
* **Acrylonitrile** is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE); SILVER NITRATE; AMINES; COPPER; and COPPER ALLOYS.
* Store in tightly closed containers in a cool, well-ventilated area away from HEAT, LIGHT and COMBUSTIBLES.
* Sources of ignition, such as smoking and open flames, are prohibited where **Acrylonitrile** is used, handled, or stored.
* Metal containers involving the transfer of **Acrylonitrile** should be grounded and bonded.
* Use only non-sparking tools and equipment, especially when opening and closing containers of **Acrylonitrile**.

Conclusion

The subject site is zoned General Industrial not Heavy Industrial under. The Wingecarribbe LEP 2010. It is beyond the doubt that plastic recycling is hazardous and toxic industry. . There is no technology available to avoid total elimination of microplastics, and PFAS via the air from chimneys, water and soil. This proposal will have irreversible detrimental impact not only on the Southern Highland but the Region and the Greater Sydney.

This is not the right site.

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